

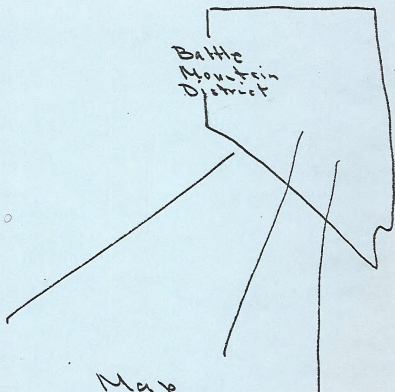


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# PLANNING AREA ANALYSIS

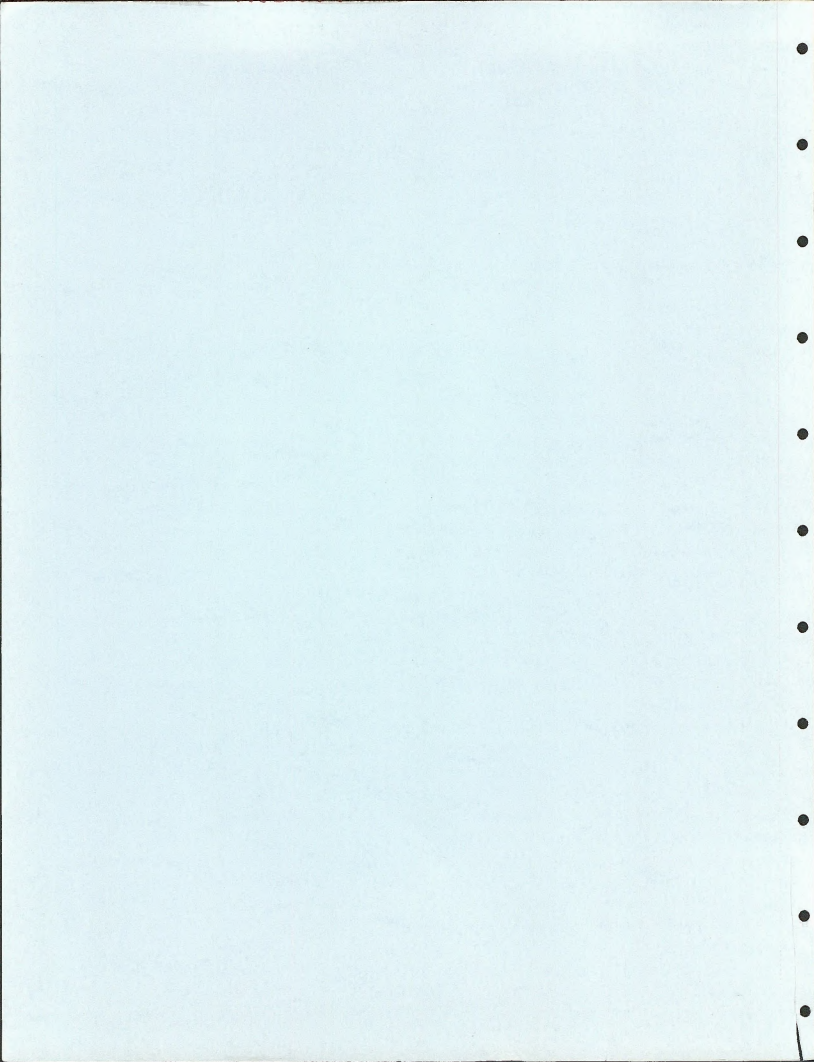
## SHOSHONE PLANNING AREA



Map  
of  
Planning  
Area

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S566  
1980

U.S. Dept. of the Int.  
Bureau of Land Management  
Battle Mountain District, Nevada



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# PLANNING AREA ANALYSIS

## SHOSHONE PLANNING AREA

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Battle Mountain District, Nevada



## PREFACE

This document is one of the major steps in the preparation of a Management Framework Plan (MFP) for the Shoshone-Eureka Resource Area. The Shoshone Planning Area Analysis and the Shoshone Unit Resource Analysis (1605) will be used with the Eureka Planning Area Analysis and Unit Resource Analysis in the preparation of the Shoshone-Eureka MFP. The Management Framework Plan will be used in the preparation of grazing allotment management plans, wildlife habitat management plans, and other resource management plans.

In addition, the MFP and the resulting grazing allotment management plans will be used in the preparation of an environmental statement on the effect of grazing in the Shoshone-Eureka Resource Area.

All comments and suggestions pertaining to this document should be addressed to:

District Manager  
Bureau of Land Management  
Battle Mountain District  
2nd and Scott St., Box 194  
Battle Mountain, Nevada 89820



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## PLANNING AREA ANALYSIS

### INTRODUCTION

The Shoshone-Planning Area Analysis (PAA) is intended to serve as a method of analyzing and displaying the relationship between social and economic facts developed in the Battle Mountain District Social-Economic Profile (SEP) and the physical and biologic data of the Unit Resource Analysis for the planning area. The data is analyzed from an economic and a social viewpoint to determine the relative significance of each resource activity and its importance to the local and national communities. The PAA also uses data developed in the SEP in order to further examine the human parameters of the environment. Bureau relationships, critical environmental areas, and significant problems and issues are summarized at the end of the PAA.

Each resource activity in terms of production, employment, and income generated is analyzed with respect to local, regional and national significance. In addition, cultural values are identified through interviews and records of participation in public meetings and questionnaires. Social well-being is examined in comparison to the State's well-being.

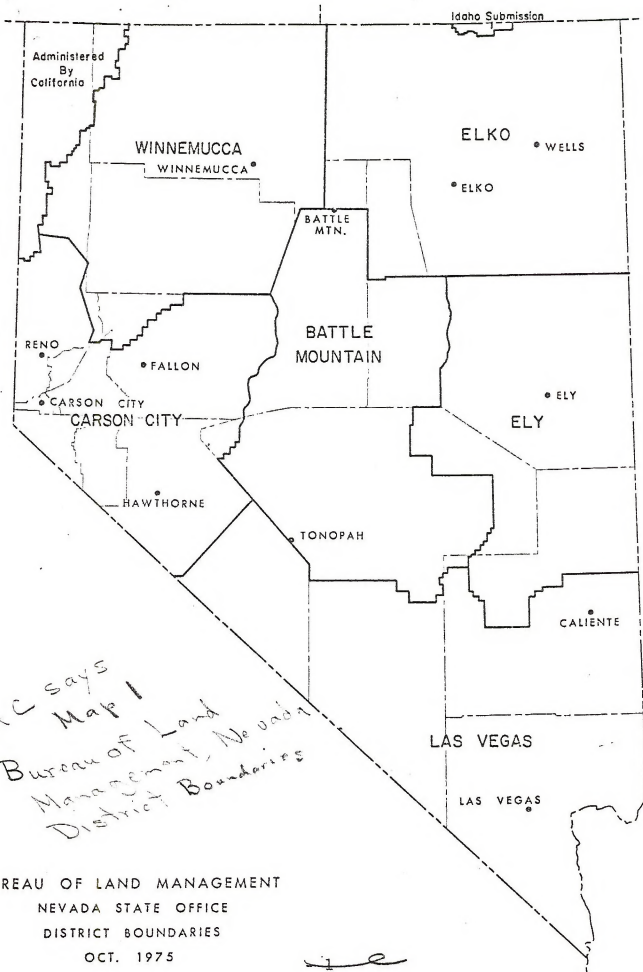
This document should be viewed as a part of a total planning process. The final goal is a Management Framework Plan (MFP).

One basic repository of data is the Unit Resource Analysis (URA) which is prepared as an inventory of resource data in map overlay and narrative form. A second basic information document is the SEP which is prepared on a District-wide basis. This SEP provides social, cultural, and economic data about the Bureau of Land Management district on a county-by-county base. The PAA serves to analyze the physical resources within the resource area with respect to the human environment.

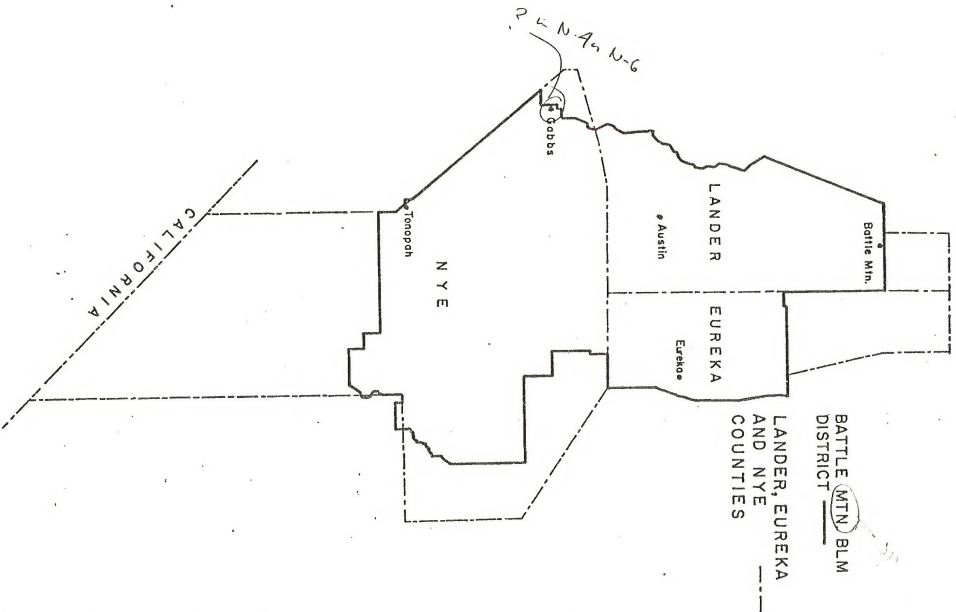
A Management Framework Plan is then developed from the URA and PAA. This MFP, after final public and official approval, will serve as a master plan for land management in the resource area for the next few years.

The PAA should serve as an indicator of the present impact of management, provide a basis for estimating impact due to change, and specify future demands and public desires. Finally, the PAA should serve as a transition from the URA to the MFP, especially Steps 1 and 2, which display objectives, rationale, and management decisions.

To help the reader locate the areas discussed in this PAA, these illustrations follow: district boundaries of the Bureau of Land Management, Nevada State Office, the Battle Mountain District office boundary as compared to county boundaries; the administrative units within the Battle Mountain District, and the Shoshone Planning Area.



MAP 2



BATTLE MOUNTAIN

SHOSHONE-EUREKA  
PLANNING AREA

EUREKA

AUSTIN

GABBS

TONOPAH  
PLANNING AREA

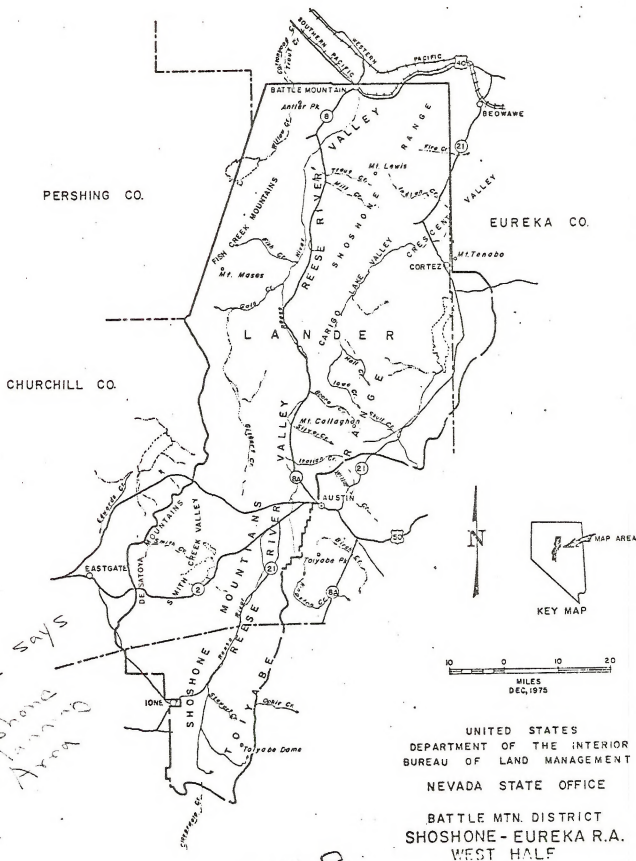
TONOPAH

LEGEND

- DISTRICT BOUNDARY
- - - RESOURCE AREA BOUNDARY
- - - PLANNING UNIT BOUNDARY
- ▨ USDA FOREST SERVICE LAND

BATTLE MOUNTAIN DISTRICT

Map 3  
ToFC says  
Battle Mountain  
Administrative Units



### SOCIAL ECONOMIC ANALYSIS AND ECONOMIC DEMAND PROJECTIONS

This section is subheaded under Resource Activities: Lands, Minerals, Forest Products, Range Management, Watershed - Reserved, Wildlife, and Recreation.

Watershed is reserved because the Bureau of Land Management (BLM) has not yet adopted procedures for indicating significance and community impact of watershed management (such as forage benefits, erosion control, stream control, etc.).

All the other resources are analyzed according to production, income, employment, and population. BLM resources are analyzed for significance and projected future demand. Where current or future use is considered significant, additional analysis of the demand for goods and services has been prepared.

## LANDS

### Required Analysis

#### Quantifiable Land-Use Classes (U.S.D.I. 1976, Lands Overlay)

Urban-Suburban. It is estimated there are approximately 400 acres of land under urban and suburban use in the towns of Austin and Battle Mountain.

Agricultural Land-Use. There are approximately 330,412 acres of private farm and grazing land in the Shoshone Planning Area. This includes ranching base property land used to raise hay to supplement livestock grazing operations and undeveloped private land.

Utility Systems Land-Use. Utility systems comprise approximately 223 miles of rights-of-way across national resource lands (NRL). These uses are broken down as follows:

|                    |                             |
|--------------------|-----------------------------|
| Power Transmission | 150 miles                   |
| Communication      | 50 miles                    |
| Gas Line           | 17 miles                    |
| Waterline          | 6 miles                     |
| TOTAL              | 223 miles of rights-of-way. |

Other Land Uses. Other land uses include four communication sites, 141,160 acres of livestock driveway withdrawal, and 40 acres of national forest administration site withdrawal.

### Non-Quantifiable Land-Uses

The Bureau of Land Management (BLM) in Nevada has not accepted Desert Land Entry applications since 1964. Desert land actions were suspended pending an assessment of the ground water availability by the State of Nevada. At present, the State study is complete, and the BLM has completed a study designed to determine where there is agricultural potential. The BLM study identifies 11,680 acres of land within the planning area that may have potential for agricultural development.

### Regional Trends

U.S. Census figures (USDC 1971) in 1970 placed the Nevada population at 488,738. The projected population for 1990 is estimated by Dr. S. F. Chu of the University of Nevada, Reno (Chu 1977) to

be 941,779 for an estimated increase of 453,733. The Nevada State Engineers Office (Nevada Division of Water Resources 1973) estimates the State population in 1990 to be 1,034,000 for an estimated increase of 545,262. Based on these estimates, the Nevada population may increase by approximately 93 to 112 percent, respectively.

In 1970 Lander County had a population of 2,666 according to the U.S. Census (USDC 1971) figures. Dr. Chu (Chu 1977) projects the 1990 population to be 3,594, and the State Engineers Office (Nevada Division of Water Resources 1973) projects the 1990 population to be 3,600. Using these projections, the population of Lander County is expected to increase by 35 to 46 percent, respectively. However, the 1970 to 1977 growth in number of personal phones (Nevada Bell 1977) in the town of Battle Mountain indicates that the 1977 population may already be near 3,700.

The projected increase in population for Lander County can be expected to lead to an equivalent increase in demand for rights-of-way, recreation, etc.

There are three major projects proposed which may affect the planning area: the 230 kv Valmy to Austin powerline; the Arctic Gas Line, a natural gas pipeline to carry fuel from Alaska to Los Angeles; and the Valmy power plant which is out of the planning area but near enough to affect the population and economy of Lander County.

#### Significance

The following table (Table 1) lists the number of people employed in "Lands Related" economic sectors within Lander County. These figures were taken from the Battle Mountain District SEP.

The employment and income percentages do not add up to 100 because the minerals sector is analyzed under Minerals Activity (following).

Table 1

Land Use Related Employment and Income in the Shoshone  
Planning Area for 1974

| Lands                                                | Employment (1974) <sup>1</sup> |         | Income <sup>2</sup>  |
|------------------------------------------------------|--------------------------------|---------|----------------------|
|                                                      | Persons                        | Percent | Thousands of Dollars |
| a. <u>Urban &amp; Suburban Lands</u><br>(480 Acres)  | 540                            | 40      | (4,374 at least)     |
| 1. Construction                                      | 40                             | 3       | Withheld             |
| 2. Manufacturing                                     | 0                              | 0       | 0                    |
| 3. Wholesale and Retail Trade                        | 210                            | 15      | 1,407                |
| 4. Finance, Insurance, and<br>Real Estate            | 10                             | 1       | Withheld             |
| 5. Services and Other                                | 50                             | 4       | 364                  |
| 6. Government                                        | 230                            | 17      | 2,603                |
| b. <u>Agricultural Lands</u><br>(330,413 Acres)      | 150                            | 11      | 1,466                |
| c. <u>Utility</u><br>(223 miles of rights-of-way)    |                                |         |                      |
| Transportation, Communication,<br>& Public Utilities | 50                             | 4       | 392                  |
| TOTAL                                                | 740                            | 55      | 6,232                |

<sup>1</sup>Nevada Employment Security Department - County Labor Force Summary - Carson City (1975).

<sup>2</sup>U.S. Department of Commerce Bureau of Economic Analysis, Regional Economics Information System. Personal Income by Major Sources 1970-74. Washington D.C.: U.S. GPO, 1976.

### Additional Analysis

#### Population Effect-Economic Demand Projections

The 1970 population density of the urban areas in the planning area is estimated to be 121 people per square mile for a total urban population of 2,391. The rural population is estimated to be .93 people per square mile for a total rural population of 261. The population/employment ratio for Lander County is 2.3. This figure means there are 2.3 people supported by each person who is employed and lives in Lander County. (See Illustration 5.)

# LEGEND

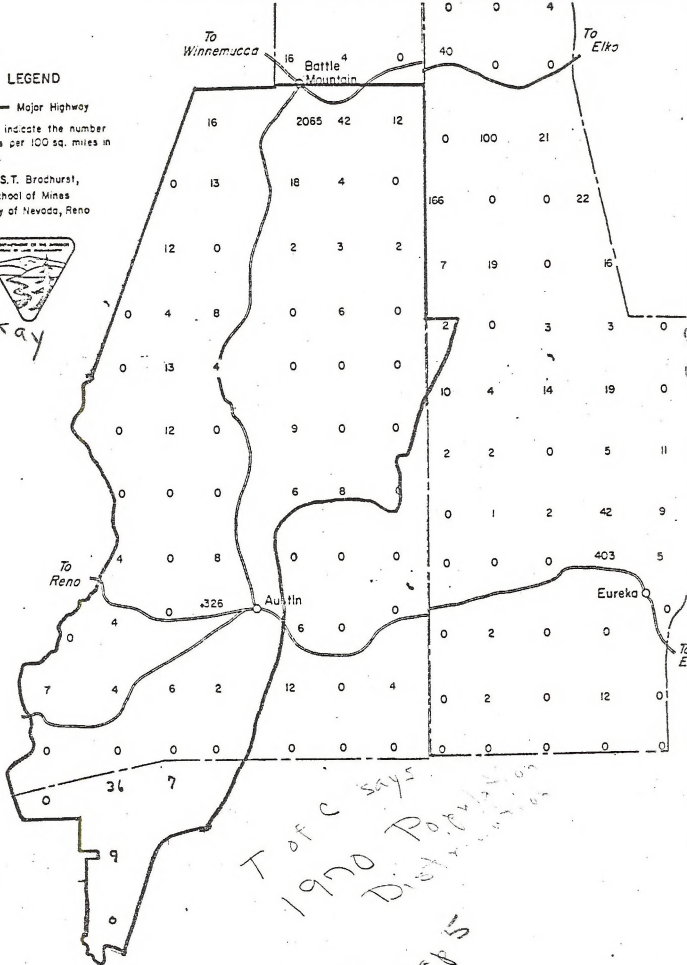
— Major Highway

Numbers indicate the number of people per 100 sq. miles in the area.

Source: S.T. Bradhurst,  
Mackay School of Mines  
University of Nevada, Reno



Mackay



T of C says  
1970 Population  
Distribution  
Map 5

## Local Demand Analysis

Urban and Suburban. The population of the Shoshone Planning Area is projected to increase by 74 percent between 1976 and 1990 (Chu 1977). Using this figure, the population in 1990 will increase to approximately 3,886. The urban population density at present is 6.0 people per acre. With a projected population of 3,886 and the existing population density of 6.0 people per acre, the urban area needed in 1990 would be 648 acres. Recent population growth may invalidate these projections; on the other hand, since much of the private land near urban areas is undeveloped at present it is expected that most of the expected population can be accommodated on available private lands.

Recreation and Public Purpose Areas. At present, there are two recreation and public purpose (R&PP) sites in the planning area. However, it can be expected there will be increasing demand in the future. Expected R&PP sites at Austin and Battle Mountain are for landfills. Battle Mountain anticipates need for a golf course, municipal water storage, and an off-road vehicle (ORV) park. Also, there is an expected need for landfill sites in the farming areas of Reese and Antelope Valleys. If the potential farm land in the planning unit is developed there may be additional demand for rural public purpose sites.

Agricultural Lands. The planning unit has 11,680 acres of land that are potentially valuable for agricultural development. If this land is developed there will be an increase in the population of the planning unit.

According to the 1969 Census of Agriculture (USDC 1972), the average farm in Lander County had 542 acres of cultivated land and employed two farm workers who worked more than 150 days per year. These figures, when applied to the 11,680 acres of land determined to have agricultural potential, result in the following estimates:

|                          |    |
|--------------------------|----|
| Potential farms          | 22 |
| Potential farm workers   | 44 |
| Potential farm operators | 22 |

Given the population/employment ratio of 2.3, it is possible that potential farm development could result in an increase in population of 151 people. This figure may be greater when employment in farm support industry and business is considered.

## MINERALS

### Introduction

Mining is the single most important industry in the Shoshone Planning Area. Primary products are gold, barite, copper, turquoise, and silver. There is potential for zeolite. All of the above have national markets. Barite and turquoise production are of national significance in terms of the percent of national output produced from the planning area.

The town of Battle Mountain, located along both a major interstate highway (I-80) and interstate rail lines (Southern Pacific and Western Pacific), has become a major drilling industry. The area is also a major producer of copper. Duval Corporation operates a large mine and mill near Battle Mountain. Although recently shut down, a gold operation at Cortez has accounted for significant production. It is likely that further exploration will uncover more deposits.

Figures are difficult to compile for turquoise since most production is by small operators on an intermittent basis. Since most operations are small and most buyers are individuals or small companies, records are difficult to obtain. Nevertheless, turquoise production from the planning area is believed to be significant nationally.

### Employment and Income

#### Employment

Figures for employment in the mining industry are relatively up to date (1975). The planning area is undergoing a small boom due to barite mining centered in Battle Mountain. It is probable that recent increases in employment and population in the area are due largely to mining.

Income and employment data are for Lander County which encompass most of the Shoshone Planning Area. The latest comparative figures for Lander County for 1975 (Nevada State Employment Security Department 1976) are as found in Tables 2-6.

In addition to the 841 employees listed, in Table 3, there are 30 employees engaged in hauling and 60 employees engaged in contract construction (Druva 1976) for a total of 931 employees.

Table 2

## Lander County\* Employment (1975)

| Employment Sector                    | Numbers | Percent of Total |
|--------------------------------------|---------|------------------|
| Total All Industries                 | 1,461   | 100              |
| Mining                               | 841     | 57.5             |
| Contract Construction                | 40      | 2.7              |
| Manufacturing                        | 0       | 0                |
| Transportation & Public Utility      | 40      | 2.7              |
| Trade                                | 240     | 16.4             |
| Finance, Insurance & Real Estate     | 10      | .68              |
| Service Industries                   | 40      | 2.7              |
| Government (Federal, State, & local) | 250     | 17.1             |

\* Lander County closely approximates the Shoshone Planning Area.

Table 3

## Mining Operations and Employment by County in Nevada (1975)

| County      | Mining Operations | Employees | Percent of Total Employees Engaged in Mining |
|-------------|-------------------|-----------|----------------------------------------------|
| Carson City | 9                 | 38        |                                              |
| Churchill   | 26                | 77        |                                              |
| Clark       | 52                | 389       |                                              |
| Douglas     | 12                | 56        |                                              |
| Elko        | 24                | 239       |                                              |
| Esmeralda   | 24                | 146       |                                              |
| Eureka      | 12                | 288       |                                              |
| Humboldt    | 17                | 106       |                                              |
| Lander      | 54                | 841       | 15.5%                                        |
| Lincoln     | 12                | 209       |                                              |
| Lyon        | 32                | 785       |                                              |
| Mineral     | 40                | 160       |                                              |
| Nye         | 38                | 557       |                                              |
| Pershing    | 30                | 241       |                                              |
| Storey      | 3                 | 81        |                                              |
| Washoe      | 24                | 243       |                                              |
| White Pine  | 23                | 986       |                                              |
| TOTAL       | 432               | 5,442     |                                              |

NOTE: Employment figures solely for the mining sector, compiled by the Nevada Industrial Commission Office of the State Inspector of Mines (NSIM 1976), are current through 1975. The figures do not include one-man or family operations.

## Employment by Commodity

Within the planning area, employment may be broken down by commodity as follows:

Table 4  
Lander County Employment by Commodity  
1975

| Commodity   | Number<br>Employed | Operations | Employee/<br>Operation |
|-------------|--------------------|------------|------------------------|
| Barite      | 195                | 15         | 13                     |
| Copper      | 324                | 3          | 108                    |
| Turquoise   | 111                | 23         | 4.8                    |
| Gold/Silver | 179                | 9          | 20                     |
| Fluorspar   | 7                  | 1          | 7                      |
| TOTAL       | 816*               | 51         | 16                     |

\*Does not equal total employed in mining because of omission of some categories (e.g., sand and gravel) in this table.

## Income

The importance of mining in the planning area, based on personal income, is indicated in the table below. For comparison the percentages of total contributed by mining, farming, and government are shown.

Table 5  
Income by Place of Work, Lander County 1973-74

|            | 1973   | Percent | 1974   | Percent |
|------------|--------|---------|--------|---------|
| Farm       | 2,106  | 16      | 1,466  | 9       |
| Non Farm   | 11,062 | 84      | 14,331 | 91      |
| Mining     | 8,637  | 66      | 11,728 | 74      |
| Government | 2,425  | 18      | 2,603  | 16      |
| TOTAL      | 13,168 | 100     | 15,797 | 100     |

U.S. Department of Commerce, Bureau of Economic Analysis. Personal Income by Major Sources, 1970-74, Regional Economics Information System. (Washington, D. C.: U.S. GPO, 1976.) Computer printout.

## Value of Mining in the Planning Area

Figures for the value of mining are compiled by the Nevada State Department of Taxation. Operating companies report gross yield. Table 6 shows gross value of mining from Lander County and from Nevada for the year 1970-76.

It is interesting to note the growth of non-metallic production (largely barite and turquoise) in the county. The drop in metallic production in Lander County from 1975 to 1976 (first half) is due to closure of the Cortez Gold Mine.

### Economic Demand Projections

#### Locatable Minerals

The mining activity described above is almost entirely in locatable minerals. Therefore, any rules, regulations, or management decisions affecting locatables may have profound local economic effects, and may also have important national effects.

The Shoshone Area is the nation's most important source of barite, which is a critical component in petroleum drilling. Nevada produced nearly 70 percent of U.S. barite production in 1975 (U.S. Bureau of Mines 1976), and its share has been showing large increases in the last several years. Most of Nevada's barite production is from the Shoshone Area with smaller production from the Eureka Area, the Tonopah Area, and the Elko District.

Mining of other commodities, such as turquoise, gold, silver, and copper, employs locally significant numbers of people.

It should be recognized that decisions affecting the hardrock mining industry in the Shoshone Area can have local, and perhaps national, repercussions.

#### Leaseable Minerals

Leasing activity within the planning area is confined to geothermal steam and sodium (zeolite).

|            | Number of<br>Leases | Acreages      |
|------------|---------------------|---------------|
| Sodium     | 6 <sup>1/</sup>     | 6,509         |
| Geothermal | 14                  | 26,385        |
| TOTAL      | <u>20</u>           | <u>32,894</u> |

<sup>1/</sup> Includes one prospecting permit.

There is no production of zeolite or geothermal steam at present. There has been zeolite production in the past, and the area contains large, but unmeasured or unevaluated, deposits of the mineral. There are few presently recognized applications for this mineral, although many theoretical applications are possible. Eventually there may be a demand resulting in exploration and development over large areas of the far West and Southwest,

including the planning area. There is continued interest in the Beowave area as a potential site for generating geothermal power, but productivity cannot be predicted.

#### Saleable Minerals

Sand and gravel are essentially the sole saleable minerals in the planning unit. There is a plentitude of this commodity, however, it is of mediocre quality and has only local utility for fill, road building material, and concrete. There appears to be enough to satisfy all local demands.

Table 6

Gross Yield From Mines (1970-76): (\$1,000)

|                         | 1970    | 1971    | 1972    | 1973    | 1974    | 1975    | (1st Half)<br>1976 |
|-------------------------|---------|---------|---------|---------|---------|---------|--------------------|
| Lander                  |         |         |         |         |         |         |                    |
| Non-Metallic            | 1,148   | 2,037   | 2,607   | 4,017   | 5,605   | 7,979   | 3,518              |
| Metallic                | 18,069  | 16,834  | 28,307  | 23,160  | 37,227  | 30,091  | 7,961              |
| Total                   | 19,767  | 18,871  | 30,914  | 28,059  | 44,137  | 38,433  | 11,479             |
| State                   |         |         |         |         |         |         |                    |
| Non-Metallic            | 17,761  | 16,371  | 14,684  | 25,259  | 30,386  | 32,045  | 14,369             |
| Metallic                | 134,121 | 111,244 | 129,181 | 138,997 | 178,169 | 158,204 | 48,269             |
| Total                   | 151,882 | 127,615 | 143,865 | 167,293 | 212,648 | 192,047 | 62,638             |
| Percent of Lander/State |         |         |         |         |         |         |                    |
| Non-Metallic            | 6.5     | 12.4    | 17.8    | 15.9    | 18.4    | 24.9    | 24.5               |
| Metallic                | 13.5    | 15.1    | 21.9    | 16.7    | 20.9    | 19.0    | 16.5               |
| Total                   | 13.0    | 14.8    | 21.5    | 16.8    | 20.8    | 20.0    | 18.3               |

Source: Nevada Department of Taxation (Division of Assessment Standards), Gross Proceeds of Mines, Summary by County. Carson City, Nevada, 1976.

## FOREST PRODUCTS

### Required Analysis

#### Production

No commercial saw timber is available for cutting in the area. The Bureau of Land Management (BLM) has had no commercial sales of timber products within the resource area; all sales have been on a demand basis to local ranchers and residents to satisfy their immediate need.

The Forest Service is the only other manager in the area to sell forest products. Studies by the Forest Service (Jensen 1972, pp. 231-234) 1968-71, have indicated production of posts and Christmas trees in pinyon-juniper types could be increased significantly by initiating silvicultural practices; however, no detailed cost-benefit analysis was published. In addition, the unit in which this work was done appears to be a considerably better site than the average BLM pinyon-juniper area in the Shoshone Resource Area.

With the exception of fuelwood, the quantity and quality of forest products on BLM land in the resource area is poor. The opportunity to economically improve the situation appears limited unless new products, processes, and harvesting techniques evolve.

There has been limited research conducted by the Nevada Division of Forestry (NDCNR meeting 1975) and its cooperators in utilization of pinyon-juniper.

Initial research work indicates there is a potential of extracting resins from the pinyon and juniper branches and needles as there is a high content of ether extractives. This would allow for total utilization if a market can be developed for the use of the main stem. Additional market research is being done for utilization of the pinyon-juniper since the chemical extraction industry would probably not be self-sustaining. It is advisable to consider this in future management.

### Significance

#### Economic Demand

There has been no significant income and employment generated by commercial utilization of local forest production. There are no industries dependent on local forest production. Demand and use is by ranchers for posts and the local population for Christmas trees and pine nuts. There is some demand for pine nuts by Indians from both inside and outside the resource area.

Benchmark data published in the Social Economic Data System by the BLM Denver Service Center indicates an increase of approximately 500 percent in board feet demand by 1980 and 1,000 percent by 1990. It is probable that this demand will be basically in fuelwood. This is dependent on several factors: population increase, energy needs, and costs and demand from the population centers of Las Vegas and western Nevada. Transportation costs to these centers would be a limiting factor in the amount of fuelwood cut.

Fuelwood sales by the BLM and Forest Service increased in 1975, about 150 percent over the five year average of 1968-72. Recent increased demand for fuelwood in western Nevada tends to reinforce the local indication of this upward trend.

#### Socio-Cultural Values

The resource manager should be aware that a significant cultural value exists in pinyon-juniper trees and pinyon nuts in connection with Indian culture. (See the rating of socio-cultural values, in a following section.)

## RANGE MANAGEMENT

### Required Analysis

#### Outputs and Values From Forage Production Other Than Livestock Grazing on National Resource Lands

There are several program elements which benefit from or utilize forage and other herbage production other than livestock.

1. All species of wildlife inhabiting an area utilize vegetation for one purpose or another. See the section on wildlife habitat in the Shoshone Unit Resource Analysis (URA) for a detailed analysis and discussion.
2. Watershed is another element intimately tied to range management. With some exceptions, the condition and value of the watershed (its ability to store and check overland flow of water) is closely related to the condition of the range. Watershed values and demands often are in conflict with livestock use of the range. There is no readily available data which quantifies this competition.
3. In some areas of the planning area, wild horses benefit from range management and forage production. The Shoshone URA range management section contains detailed data on forage consumption and competition with livestock.

### Significance

#### Program Significance and Expected Trend

Because range management is closely related to watershed, wildlife habitat management, wild horses, and the local livestock industry, it is expected the range management program within the planning area will remain a major component of the total natural resource management spectrum. See Table 7 for the importance of forage production on BLM lands to the local and regional livestock industry.

#### Regional and Local Significance of Livestock Grazing on National Resource Lands

Tables 7 and 8 depict the importance of forage production on BLM land to the livestock industry both for forage and for income. Table 9 shows the significance of range forage on national resource lands (NRL) to local employment and income.

The NRL within the planning area supplies approximately 75 percent of all livestock feed in the planning area and approximately 3 percent of all feed in the State. Within the planning area, each Animal Unit Month (AUM) of NRL livestock forage generates approx-

TABLE 7

Shoshone Planning Area, Local and Regional Significance of  
Livestock Forage, All Sources and National Resource Lands

| CLASS OF STOCK          | FEED<br>AUMS<br>(PA) | FEED<br>AUMS<br>(STATE) | PERCENT OF<br>PLANNING AREA<br>TO STATE |
|-------------------------|----------------------|-------------------------|-----------------------------------------|
| <u>CATTLE</u>           |                      |                         |                                         |
| Total                   | 177,054              | 7,884,000               | 2%                                      |
| NRL                     | 147,720              | 1,782,652               | 8%                                      |
| NRL percent of total    | 83%                  | 23%                     |                                         |
| <u>SHEEP</u>            |                      |                         |                                         |
| Total                   | 36,840               | 362,400                 | 10%                                     |
| NRL                     | 24,240               | 274,640                 | 8%                                      |
| NRL percent of total    | 66%                  | 76%                     |                                         |
| <u>CATTLE AND SHEEP</u> |                      |                         |                                         |
| Total                   | 213,894              | 8,246,400               | 3%                                      |
| NRL                     | 171,960              | 2,057,292               | 8%                                      |
| NRL percent of total    | 75%                  | 25%                     |                                         |
| <u>HORSES</u>           |                      |                         |                                         |
| Total                   | 15,372               | 300,000                 | 5%                                      |
| NRL                     | 14,450               | 180,000                 | 8%                                      |
| NRL percent of total    | 94%                  | 60%                     |                                         |

Sources: U.S. Department of the Interior, Bureau of Land Management. 1974 Nevada BLM Statistics. Reno, Nevada. 1975. U.S. Department of the Interior, Bureau of Land Management. Shoshone Planning Area grazing files.

TABLE 8

Local and Regional Income Effect of Forage Production  
on National Resource Lands

|                                          | <u>Income</u><br><u>Planning Area</u><br>(1974) | <u>State</u><br>(1974) | <u>Planning Area as</u><br><u>Percent of State</u> |
|------------------------------------------|-------------------------------------------------|------------------------|----------------------------------------------------|
| Total From<br>Livestock Production       | \$1,165,413                                     | \$89,910,000           | 1%                                                 |
| NRL Generated:                           |                                                 |                        |                                                    |
| From Livestock Grazing                   | \$ 874,060                                      | \$22,477,500           | 4%                                                 |
| NRL Percent of Total                     | 75%                                             | 25%                    |                                                    |
| Income Per NRL Licensed<br>AUM           | \$5.42                                          | \$11.00                |                                                    |
| Income Multiplier For<br>Indirect Income | 1.103                                           | 1.355                  |                                                    |

## Sources:

1. Derived from U.S. Department of Commerce 1976, Census of Agriculture 1974, Nevada Bureau of the Census 1976, unpublished.
2. Computed from data furnished by the Department of Commerce, Bureau of Economic Analysis, Regional Economics Information System. Washington, D.C.: U.S.GPO, 1975, Computer Printout.
3. U.S. Department of the Interior, Bureau of Land Management, Denver Service Center. Socio-Economic Data System 1974, Computer Printout.

TABLE 9  
INCOME EFFECT  
LANDER COUNTY

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|                                                                                            |      |
|--------------------------------------------------------------------------------------------|------|
| Total Employed                                                                             | 1461 |
| Employed in Agriculture                                                                    | 150  |
| Percent of Employed Workers<br>in Agriculture                                              | 10%  |
| Employed in Livestock                                                                      | 119  |
| Percent of Employed Workers<br>in Livestock                                                | 8%   |
| Percent of NRL AUMs to total<br>AUMs in the Planning Area                                  | 75%  |
| Percent of Employed Workers<br>Dependent on National Resource Lands                        | 6%   |
| Number of Employed Workers Dependent<br>on Livestock Grazing on National<br>Resource Lands | 89   |

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Source: Employment Information taken from Nevada Employment Security Department, 1975.

imately \$5.42 of net personal income within the livestock industry. An Animal Unit Month (AUM) is a commonly accepted measure of the forage required to feed one animal unit (one mature cow, or five sheep, etc.) for one month. Livestock forage produced on BLM land in the planning area generates approximately 4 percent of the net income within the State from the livestock industry on NRL.

The comparison in Table 7 between forage on NRL to the total in the planning area and in the State is rather crucial. The total forage for the planning area was computed by adding the BLM produced forage to a calculation of Forest Service produced forage and estimating the AUMs from private land in the planning area. The State totals were computed from the numbers of animals produced in the State.

Income in Table 8 was calculated by using farm income for farm operators and employees from 1974 personal income figures for Lander County. Livestock related income was derived by comparing livestock sales to total agricultural sales. National resource lands generated income was arrived at by a comparison of NRL forage produced to total forage in the planning area. Income derived from NRL was derived by the amount of NRL forage (AUMs) sold in the planning area to arrive at the income per NRL licensed AUM.

Within Lander County approximately 6 percent of all employed workers, or 89, are dependent upon livestock grazing on NRL, and 75 percent of personal income from livestock grazing in this area is from livestock grazing on NRL.

#### Additional Analysis

##### Economic Demand Projections

Allocation of regional demand in 1990 derived from the BLM Socio-Economic Data System for cattle-benchmark projections factor through 1990 = 1.18; for sheep = 1.22.

For cattle -  $147,720 \times 1.18 = 174,309$  AUMs regional demand in 1990 in the planning area.

For sheep -  $24,240 \times 1.22 = 29,572$  AUMs regional demand in 1990 in the planning area.

Local demand estimate for 1990 from Water For Nevada (Nevada Division of Water Resources 1970) - trend factor for cattle through 1990 = 1.066; for sheep = 1.000.

For Cattle.  $147,720 \times 1.066 = 157,469$  AUMs demand from NRL in 1990.

For Sheep. No increased demand.

Demand projections limits through 1990 for the planning area:

Cattle. 157,469 AUMs minimum - 174,309 AUMs maximum - NRL.

Sheep. 24,240 AUMs minimum - 29,572 AUMs maximum - NRL.

There are no known conditions or major changes in non-BLM sources of supply which will alter the above projections.

Within the planning area 1,281 wild horses account for 15,372 AUMs per year. At \$6.25 per AUM (the commercial value of an AUM) the wild horses consume \$96,075 worth of forage per year.

The amount of income that could be generated by the livestock industry if livestock consumed the forage presently consumed by wild horses would be:

15,372 AUMs X \$5.42 (net income/AUM) = \$83,316.

## WILDLIFE

### Analysis of Major Wildlife and Fishery Resource Components

#### Mule Deer

Deer hunting is the major big game activity in the Shoshone Planning Area. Nevada deer herds are low at the present time; however, deer often exhibit sporadic cyclic population levels and with proper management deer numbers could increase substantially. According to Table 10, over 60 percent of the deer habitat on the planning area is on national resource lands (NRL); the remainder is found primarily on U.S. Forest Service land. Management Area #15 does not receive a major portion of the hunting pressure (See Table 11). This is a result of low population of resident hunters and lack of high deer numbers.

#### Sage Grouse

Hunting for sage grouse is one of the more popular activities in Lander County. Almost 75 percent of sage grouse habitat in the Shoshone Planning Area is located on NRL (Table 10). Lander County accounted for 16.2 percent of the hunter days in 1975 (Table 11), indicating its importance.

#### Chukar

In 1975 (Table 11), chukar hunting was the major hunting activity in Lander County. This area is also important statewide, accounting for 12.1 percent of total hunting days (Table 11). Over two-thirds of the chukar habitat on the planning area is located on NRL (Table 10). According to Table 10 chukar hunter days have almost doubled since 1972.

#### Quail

Quail hunting is restricted to areas of local concentrations of California quail mainly inhabiting private lands along streams. NRL is responsible for less than 5 percent of the quail habitat in the planning area (Table 10). The importance of Lander County compared to the State total is small, less than 1 percent (Table 11).

Table 10

Analysis of the Importance of Wildlife for Hunting Opportunities  
Shoshone Planning Area

| Species             | Year                                                  | Hunter<br>Days Per<br>Year | Hunter<br>Days Per<br>Wildlife Species | Hunter Days<br>Per Acres (A)<br>of Habitat a/ | Percent of<br>Total Habitat<br>on NRL b/ |
|---------------------|-------------------------------------------------------|----------------------------|----------------------------------------|-----------------------------------------------|------------------------------------------|
|                     |                                                       |                            |                                        | <u>Days/100 A</u>                             | <u>d/</u>                                |
| Mule Deer <u>c/</u> | 1972                                                  | No Data                    | No Data                                | No Data                                       | N/A                                      |
|                     | 1973                                                  | No Data                    | No Data                                | No Data                                       | N/A                                      |
|                     | 1974                                                  | 10,806 <u>e/</u>           | 16.6 <u>e/</u>                         | 2.0                                           | N/A                                      |
|                     | 1975                                                  | 6,730 <u>e/</u>            | 24.8 <u>e/</u>                         | 1.2                                           | 62.8%                                    |
|                     | Ave.                                                  | 8,768                      | 20.7                                   | 1.6                                           | N/A                                      |
|                     |                                                       |                            |                                        | <u>Days/1000 A</u>                            |                                          |
| Sage Grouse         | 1972                                                  | 2,330 <u>f/</u>            | .81 <u>f/</u>                          | 2.7                                           | N/A                                      |
|                     | 1974                                                  | 2,256 <u>f/</u>            | .80 <u>f/</u>                          | 2.6                                           | N/A                                      |
|                     | 1975                                                  | 2,608 <u>f/</u>            | .91 <u>f/</u>                          | 3.0                                           | 73.3%                                    |
|                     | Ave.                                                  | 2,398                      | .84                                    | 2.8                                           | N/A                                      |
| Blue Grouse         | Not reported since habitat is on U.S.. Forest Service |                            |                                        |                                               |                                          |
|                     |                                                       |                            |                                        | <u>Days/1000 A</u>                            |                                          |
| Rabbits             | 1972                                                  | 895 <u>f/</u>              | .91 <u>f/</u>                          | .38                                           | N/A                                      |
|                     | 1974                                                  | 1,224 <u>f/</u>            | .51 <u>f/</u>                          | .52                                           | N/A                                      |
|                     | 1975                                                  | 905 <u>f/</u>              | .78 <u>f/</u>                          | .49                                           | 78.3%                                    |
|                     | Ave.                                                  | 1,008                      | .73                                    | .46                                           | N/A                                      |
|                     |                                                       |                            |                                        | <u>Days/1000 A</u>                            |                                          |
| Mourning<br>Dove    | 1972                                                  | 476 <u>f/</u>              | .24 <u>f/</u>                          | .20                                           | N/A                                      |
|                     | 1974                                                  | 324 <u>f/</u>              | .23 <u>f/</u>                          | .14                                           | N/A                                      |
|                     | 1975                                                  | 613 <u>f/</u>              | .32 <u>f/</u>                          | .26                                           | 78.3%                                    |
|                     | Ave.                                                  | 471                        | .26                                    | .20                                           | N/A                                      |

Table 10 (cont.)

Analysis of the Importance of Wildlife for Hunting Opportunities  
Shoshone Planning Area

| Species                | Year                                                     | Hunter<br>Days Per<br>Year | Hunter<br>Days Per<br>Wildlife Species | Hunter Days<br>Per Acres (A)<br>of Habitat a/ | Percent of<br>Total Habitat<br>on NRL b/ |
|------------------------|----------------------------------------------------------|----------------------------|----------------------------------------|-----------------------------------------------|------------------------------------------|
|                        |                                                          |                            |                                        | <u>Days/1000 A</u>                            |                                          |
| Ducks                  | 1972                                                     | 319 <u>f/</u>              | .61 <u>f/</u>                          | 10.2                                          | N/A                                      |
|                        | 1974                                                     | 299 <u>f/</u>              | .46 <u>f/</u>                          | 9.5                                           | N/A                                      |
|                        | 1975                                                     | 399 <u>f/</u>              | .45 <u>f/</u>                          | 12.7                                          | Less than 1.0%                           |
|                        | Ave.                                                     | 339                        | .51                                    | 10.8                                          | N/A                                      |
| Geese                  | Not reported since habitat is primarily on private lands |                            |                                        |                                               |                                          |
|                        |                                                          |                            |                                        | <u>Days/1000 A</u>                            |                                          |
| Chukar                 | 1972                                                     | 4,082 <u>f/</u>            | .55 <u>f/</u>                          | 5.9                                           | N/A                                      |
|                        | 1974                                                     | 6,563 <u>f/</u>            | .56 <u>f/</u>                          | 9.4                                           | N/A                                      |
|                        | 1975                                                     | 7,074 <u>f/</u>            | .45 <u>f/</u>                          | 10.1                                          | 68.5%                                    |
|                        | Ave.                                                     | 5,906                      | .52                                    | 8.5                                           | N/A                                      |
| Hungarian<br>Partridge | Not reported since habitat is primarily on private lands |                            |                                        |                                               |                                          |
|                        |                                                          |                            |                                        | <u>Days/1000 A</u>                            |                                          |
| Quail                  | 1972                                                     | 516 <u>f/</u>              | .86 <u>f/</u>                          | 5.2                                           | N/A                                      |
|                        | 1974                                                     | 591 <u>f/</u>              | 2.9 <u>f/</u>                          | 6.0                                           | N/A                                      |
|                        | 1975                                                     | 51 <u>f/</u>               | 3.4 <u>f/</u>                          | .52                                           | 3.3%                                     |
|                        | Ave.                                                     | 386                        | 2.4                                    | 3.9                                           | N/A                                      |
| Pheasant<br>Cocks      | Not reported since habitat is primarily on private lands |                            |                                        |                                               |                                          |

- a/ Obtained by dividing acreage of wildlife species habitat (Shoshone URA, Wildlife Resources, Step 3) by Hunter Days Per Year (Table 10).
- b/ Obtained by dividing total NRL acreage (Shoshone P.A. Phase 1, Watershed) by that for wildlife species habitat (Shoshone URA, Wildlife Resources, Step 3).
- c/ Data for 1972 and 1973 indicating number of total hunter days was not available; however, total kill figures for the two years closely resembled those for 1974.
- d/ N/A is the abbreviation for not applicable.
- e/ Data originated from Nevada Department of Fish and Game. Tsukamoto, George, Editor and Compiler, 1973, 74, 75, 76. Big Game Investigations and Hunting Season Recommendations. Reno, Nevada, and U.S. Department of the Interior, Bureau of Land Management, Battle Mountain, Nevada, Shoshone Unit Resource Analysis, 1976.

The Nevada Department of Fish and Game Management (NDF&G) Area #15 has been used since it is believed to be representative of the Shoshone Planning Area; however, its boundaries differ in the following respects and result in more total acreage:

- A. NDF&G Management Area #15 has the following significant areas which are not located in Shoshone Planning Area:
  - 1. Western portions and adjacent valleys of Desatoya Mountains,
  - 2. Lands adjacent to Humboldt River,
  - 3. Eastern portions of Simpson Park Mountains,
  - 4. Northern portions of Monitor and Big Smoky Valleys.
- B. NDF&G Management Area #15 does not contain the Upper Reese River Valley or the northern parts of Ione Valley, both areas occurring south of the Lander-Nye county line.
- C. Acreage originates from Shoshone URA, Wildlife Resources, Step 3, which is less than actual acreage for NDF&G. Management Area #15; however, the relative differences or similarities among the values for the various parameters in the table can be compared.
- f/ Data originated from NDF&G, Molini, William A., George Tsukamoto and Larry Barngrover, Editors & Compilers, 1973, and Molini, William A., and Larry Barngrover, Editors & Compilers, 1975 & 1976, Upland Game, Migratory Game Birds, Fur Investigations, and Hunting Season Recommendations, Reno, Nevada, and Bureau of Land Management, USDI Battle Mountain, Nevada, Shoshone Unit Resource Analysis. The Nevada Department of Fish and Game presents data according to county for these species. Lander County results are used to represent Shoshone Planning Area; however, their boundaries differ in the following respects:
  - A. Lander County has the following significant areas which are not located in Shoshone Planning Area.
    - a. Lands adjacent to Humboldt River,
    - b. Northern portions of Monitor and Big Smoky Valleys;

- B. Lander County does not contain the Upper Reese River Valley or the northern parts of Ione Valley. Both located in Nye County.
- C. Acreage originates from Shoshone URA, Wildlife Resources, Step 3, which is less than actual acreage of Lander County; however, the relative differences or similarities among the values for the various parameters in the table can be compared.

Table 11

The Relative Significance of Lander County as a Source  
For Total Hunter and Fisherman Use, 1975

| Species<br>or<br>Activity | Hunter or Fisherman Days |               |                  |             | Lander County<br>Percent of<br>State Total b/ |
|---------------------------|--------------------------|---------------|------------------|-------------|-----------------------------------------------|
|                           | Lander County            | Eureka County | Churchill County | State Total |                                               |
| Mule Deer                 | 6,730                    | 5,656         | 771              | 175,559     | 3.8%                                          |
| Sage Grouse               | 2,608                    | 1,007         | 268              | 16,038      | 16.2%                                         |
| Chukar                    | 7,074                    | 2,075         | 1,999            | 58,391      | 12.1%                                         |
| Quail                     | 51                       | 34            | 1,494            | 38,662      | 0.1%                                          |
| Rabbits                   | 905                      | 469           | 1,029            | 43,483      | 2.1%                                          |
| Doves                     | 613                      | 629           | 2,840            | 39,218      | 1.6%                                          |
| Ducks                     | 399                      | 861           | 24,422           | 86,024      | .46%                                          |
| Fishing c/                | 17,398                   | 1,909         | 162,530          | 1,820,694   | .9%                                           |

a/ Deer data originated from Nevada Department of Fish and Game (NDF&G), Tsukamoto, George, Editor & Compiler, 1976, Big Game Investigations and Hunting Season Recommendations, Reno, Nevada; remaining wildlife data except fishing originated from NDF&G, Molini, William A., and Larry Barngrover, Editor & Compiler, 1976, Upland Game, Migratory Game Birds, Fur Investigations, and Hunting Seasons Recommendations, Reno, Nevada; and fishing data originated from NDF&G 1974, Statewide Angler Questionnaire, Statewide Fisheries Program Project No. F-20-9, Job No. 5A, Reno, Nevada, p. 5.

Deer Management units were used for better analysis for mule deer: Management Area #15 for Lander County, Management Area #14 for Eureka County, and Management Area #18 for Churchill County.

b/ Percent of State total refers to Lander County only.  
c/ Values for fishing represent 1973.

## Rabbits

Rabbit hunting is often combined with chukar and quail hunts as a secondary activity. Over three-fourths of the rabbit habitat on the planning area is located on NRL (Table 10). Lander County accounts for only 2.1 percent of total State rabbit hunting days (Table 11).

## Doves

Dove hunting is increasing in popularity throughout Nevada. Over 75 percent of the planning area's dove habitat is located on NRL (Table 10). Lander County is not an important contributor to the State's total dove hunting days accounting for less than 2 percent of the State's total.

## Ducks

Wetland habitat is limited on the Shoshone Planning Area. Of that on the planning area, less than 1 percent is located on NRL (Table 10). Lander County accounts for .46 percent (Table 11) of the total State duck hunter days, and most of this is concentrated along the Humboldt River on private land.

## Fishing

Fishing is a major activity in the planning area (Table 11). Cold water streams are stocked regularly, and many maintain successful reproduction. Approximately 50 percent of the fishable waters are on NRL in the planning area (Table 12). Lander County is not a major fishing area, providing less than 1.0 percent of the State's total fishing days (Table 11).

## Furbearers

Important Nevada furbearers are listed in Table 13. Of these only the coyote and bobcat are found to any great extent on NRL in the Shoshone Planning Area. Beaver may presently occur on the Upper Reese River and were formerly on some streams but never in great numbers. Bobcats and coyotes account for over 75 percent (Table 14) of the total monetary annual harvest for the State. Long furs of this nature have steadily increased in price per pelt (Table 13) with bobcat more than tripling per pelt from 1972-73 to 1975-76. Many coyotes and bobcats are taken in addition to those reported, further denoting their value as a supplementary income source to Nevadans. A comparison of Lander County with Eureka and Churchill Counties (Table 15) has been made in order to evaluate the planning area's relative importance. It should be noted in Table 6, that wetland species such as beaver, muskrat, and otter are primarily taken along the Humboldt River directly north of the Shoshone Planning Area.

Table 12

Analysis of the Importance of Streams for Fishing Opportunities,  
Shoshone Planning Area a/

| Year | Fisherman Days<br>Per Year <u>b/</u> | Days Per<br>Stream Mile <u>c/</u> | Percent of Total<br>Habitat on NRL <u>d/</u> | Comments |
|------|--------------------------------------|-----------------------------------|----------------------------------------------|----------|
| 1968 | 14,709                               | N/A <u>e/</u>                     | N/A                                          |          |
| 1969 | 15,599                               | N/A                               | N/A                                          |          |
| 1970 | 20,735                               | N/A                               | N/A                                          |          |
| 1971 | 19,467                               | N/A                               | N/A                                          |          |
| 1972 | 21,305                               | N/A                               | N/A                                          |          |
| 1973 | 17,398                               | 217                               | 53.5%                                        |          |
| Ave. | 18,202                               | N/A                               | N/A                                          |          |

a/ Examine Table 1, footnote 5, for analysis of geographical coverage differences between Lander County and Shoshone Planning Area.

b/ Nevada Department of Fish and Game 1974 Statewide Angler Questionnaire, Statewide Fisheries Program, Project No. 5-20-9, Job No. 5A, Reno, Nevada, p. 5.

c/ Obtained by dividing Fisherman Days Per Year (Table 11) by total stream length (Shoshone URA, Wildlife Resources, Step 3).

d/ Obtained by dividing total NRL stream length by total stream length (Shoshone URA, Wildlife Resources, Step 3).

e/ N/A is abbreviation for not applicable.

Table 13

Analysis of Important Statewide Furbearer Harvest a/

| Species  | Year    | Animals<br>Harvested | Average Price<br>Per Pelt | Total<br>Value |
|----------|---------|----------------------|---------------------------|----------------|
| Beaver   | 1972-73 | 1,849                | No Data                   | No Data        |
|          | 1974-75 | 1,472                | No Data                   | No Data        |
|          | 1975-76 | 1,139                | 12.17                     | 13,861.63      |
|          | Ave.    | 1,487                | 12.17                     | 18,096.79      |
| Muskrat  | 1972-73 | 6,240                | No Data                   | No Data        |
|          | 1974-75 | 7,946                | 2.04                      | 16,209.84      |
|          | 1975-76 | 11,365               | 2.79                      | 31,708.35      |
|          | Ave.    | 8,517                | 2.41                      | 20,525.97      |
| Gray Fox | 1972-73 | 348                  | No Data                   | No Data        |
|          | 1974-75 | 239                  | No Data                   | No Data        |
|          | 1975-76 | 548                  | 20.15                     | 11,042.20      |
|          | Ave.    | 378                  | 20.15                     | 7,616.70       |
| Coyote   | 1972-73 | 2,296                | 13.68                     | 31,409.28      |
|          | 1974-75 | 3,730                | 14.62                     | 54,532.60      |
|          | 1975-76 | 3,008                | 24.37                     | 73,304.96      |
|          | Ave.    | 3,011                | 17.56                     | 53,873.16      |
| Bobcat   | 1972-73 | 1,547                | 47.75                     | 73,869.25      |
|          | 1974-75 | 1,345                | 58.44                     | 78,601.80      |
|          | 1975-76 | 1,334                | 155.30                    | 207,170.20     |
|          | Ave.    | 1,409                | 87.33                     | 123,047.97     |

a/ Taken from Nevada Department of Fish and Game, Molini, William A., George Tsukamoto and Larry Barngrover, Editors & Compilers 1973 and Molini, William A., and Larry Barngrover, Editors & Compilers 1975 & 76. Upland Game, Migratory Game Birds, Fur Investigations, and Hunting Season Recommendations, Reno, Nevada.

Table 14

A Statewide Analysis of Yearly Fur Harvest and Important Species a/

| YEAR    | TOTAL<br>FURBEARERS<br>HARVESTED<br>(Pelts) | TOTAL<br>VALUE        | VALUE OF IMPORTANT SPECIES |             |                             |
|---------|---------------------------------------------|-----------------------|----------------------------|-------------|-----------------------------|
|         |                                             |                       | BOBCATS                    | COYOTES     | PERCENT OF TOTAL<br>HARVEST |
| 1971-72 | 19,238                                      | \$79,190.00 <u>b/</u> | No Data                    | No Data     | No Data                     |
| 1972-73 | 12,703                                      | \$142,705.00          | \$73,869.25                | \$31,409.28 | No Data                     |
| 1973-74 | 16,158                                      | \$292,261.00          | No Data                    | No Data     | No Data                     |
| 1974-75 | 15,628                                      | \$173,041.23          | \$78,601.80                | \$54,532.60 | 76.9%                       |
| 1975-76 | 18,229                                      | \$344,329.84          | \$207,170.20               | \$73,304.96 | 81.5%                       |

a/ Data originated from Nevada Department of Fish and Game (NDF&G), Molini, William A., George Tsukamoto and Larry Barngrover, Editors & Compilers 1973, and Molini, William A., and Larry Barngrover, Editors & Compilers 1975 & 76. Upland Game, Migratory Game Birds, Fur Investigations, and Hunting Season Recommendations, Reno, Nevada.

b/ NDF&G Furbearer Investigations. Carson City, Nevada, 1975.

Table 15

Comparison of Lander County Furbearer Harvest With  
Churchill and Eureka Counties, 1974-75 a/

| SPECIES           | LANDER | CHURCHILL | EUREKA |
|-------------------|--------|-----------|--------|
| Beaver            | 7      | 93        | 7      |
| Gray Fox          | 0      | 11        | 0      |
| Kit Fox <u>b/</u> | 5      | 27        | 0      |
| Muskrat           | 7      | 4237      | 0      |
| Otter             | 1      | 0         | 0      |
| Raccoon           | 1      | 1         | 0      |
| Bobcat            | 12     | 163       | 5      |
| Coyote            | 78     | 151       | 78     |
| Badger            | 5      | 8         | 11     |
| Striped Skunk     | 0      | 12        | 0      |

a/ Data originated from Nevada Department of Fish and Game, Ashman, David, and Jim Jeffress, Furbearer Investigations, Reno, Nevada, 1975, pp. 11-12.

b/ Protected species, an accidental capture,

Analysis of Deer Hunting and Fishing  
Concerning Income-Employment Measures

Local - Deer Hunting

- a. 7,768 deer hunter days total (Table 10) =
- b. \$36.02 average cost per day a/
- c. \$279,803.36 total ( $a \times b = c$ )
- d. \$72,748.87 direct income ( $c \times .26$ ) b/
- e. \$78,568.77 total income ( $d \times 1.08$ ) c/
- f. 11 employees ( $d \div \$7,408$ ) d/ = Number of employees dependent on deer hunting in the resource area.

Statewide - Deer Hunting

- a. 175,559 deer hunter days total (Table 11)
- b. 39.35 average cost per day a/
- c. \$6,908,246.65 State expenditure total ( $a \times b = c$ )
- d. \$1,796,144.12 direct personal income ( $c \times .26$ ) b/
- e. \$1,939,835.64 total personal income ( $d \times 1.08$ ) c/
- f. 262 employees ( $d \div \$7,408$ ) d/ = Number of employees dependent on deer hunting Statewide.

Local - Fishing

- a. 17,398 fisherman days total (Table 11)
- b. \$12.86 average cost per day a/
- c. \$223,738 local expenditure total ( $a \times b = c$ )
- d. \$58,172 direct personal income ( $c \times .26$ ) b/
- e. \$62,826 total personal income ( $d \times 1.08$ ) c/
- f. 8.48 ( $d \div \$7,408$ ) d/ = Numbers of employees dependent on fishing in the resource area.

Statewide - Fishing

- a. 1,820,694 fisherman days total (Table 11)
- b. \$12.86 average cost per day a/
- c. \$23,414,125 local expenditure total ( $a \times b = c$ )
- d. \$6,087,672 direct income ( $c \times .26$ ) b/
- e. \$6,574,686 total income ( $d \times 1.08$ ) c/
- f. 887.51 employees ( $d \div \$7,408$ ) d/ = Number of employees dependent on fishing Statewide.

- a/ Analysis of Table G-3 in Nevada Department of Fish and Game, Tsukamoto, George, Big Game Investigations and Hunting Season Recommendations. Nevada Department of Fish and Game, Reno, Nevada, 1975-76, indicates that approximately 55 percent of hunters harvesting deer within NDF&G Management Area #15 reside in Washoe (20%), Lander (20%) and Churchill (15%).

Counties. Non-Nevada residents account for 10 percent of the harvest. Average cost was determined using this data combined with information from Garrett, James R., Characteristics of Nevada Hunters. University of Nevada, Reno, Agricultural Experiment Station, B-22, 1970, p. 66 in the following manner:

#### Local - Deer Hunting Data

8,768 deer hunter day per year (Table 1) ÷ 2.5 days per trip (Garrett-p. 24) X .9 hunter days by Nevada residents (Tsukamoto-Table G-3) X \$78.14 average expenditure by hunters (Garrett-p.59) = \$246,647.

8,768 deer hunter days per year (Table 1) ÷ 2.5 days per trip (Garrett-p. 24) X .1 hunter days by out-of-state hunters (Tsukamoto-Table G-3) X \$197.30 average expenditure by hunters (Garrett-p. 59) = \$69,197.

Total: \$246,647 + \$69,197 = \$315,844 annual cost. \$90.06 cost per trip (315,844 ÷ 3,507.20).

#### Statewide - Deer Hunting Data

175,559 deer hunter days per year (Table 2) ÷ 3.1 days per trip (Garrett-p. iv) X .9 hunter days by Nevada residents (Tsukamoto-Table G-3) X \$86.07 average expenditure by hunter (Garrett-p. 58) = \$4,386,879

175,559 deer hunter days per year (Table 2) ÷ 4.8 days per trip (Garrett-p. iv) X .1 hunter days by out-of-state hunters (Tsukamoto-Table G-3) X \$270.34 average expenditure by hunter (Garrett-p. 58) = \$988,760

Total: \$4,385,351 + \$988,763 = \$5,375,639 annual cost.

\$98.40 cost per trip (\$5,374,115) ÷ 54,626).

b/ The 0.26 value based on Malone, J., and S. Detering, An Interindustry Analysis of the Elko, County, Nevada Economy, University of Nevada, Reno, Agricultural Experiment Station, 1969. A weighted average is obtained from trade coefficient (pg. 35, Table 3) and is multiplied by the direct income coefficient of households in the trade sector to obtain an expenditure to income ratio of .265.

c/ U.S. Department of Interior, Bureau of Land Management, Social-Economic Profile, including Eureka, Lander, and Nye Counties, Nevada, 1976, p. 9.

d/ Obtained by dividing total income in the trade and services sectors by the total employment in the trade and services sectors obtaining an average income for employees in the trade and service sectors. The figures were obtained for 1973 from the Department of Commerce, Regional Economics Information System, and the Nevada Employment Security, Department of Manpower and Information Section, County Labor Force Summary, 1974.

e/ Miles, George A., Water Based Recreation in Nevada, Western Desert and Northern Lakes. Desert Research Institute, University of Nevada, Reno, 1967. Obtained by personal communication by Ron Druva from Pat Coffin, Nevada Department of Fish and Game, Elko, Nevada, December 14, 1976.

## Demand Projections

In general, hunting and fishing resources are not utilized to their maximum potential in the Shoshone Planning Area, primarily as a result of low human population levels in and adjacent to the area. Information is insufficient for analysis of furbearers in this regard, but harvest may be closely approaching annual surplus, especially with such species as bobcats.

Angler days, anglers, and stocking numbers should increase from 1970 to 2020 (Graph 1) statewide. Numbers of hunters statewide are expected to peak between 1990 and 2000; hunter days should begin to decrease after 2000; and harvest of game would steadily increase until 1990 and then stabilize at that level (Graph 2). Statewide, all game populations are expected to steadily decrease from 1970 to 2020 (Graph 3). According to Graph 4, anglers and hunters and angler and hunter days will increase from 1970 to 2020, the former at a faster rate.

The Shoshone Planning Area generally is expected to follow these patterns for the State; however, through improved range management all game populations should first increase and later, possibly year 2000, begin a steady, irreversible downward trend.

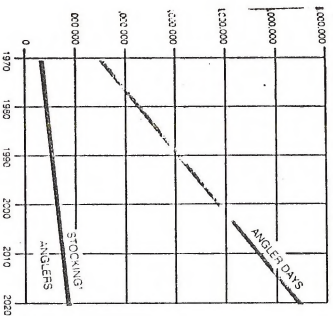
The following graphs are taken from the Nevada Division of Water Resources' Water for Nevada, Volume 6 - Wildlife, published by the State Engineers Office, Carson City, Nevada, 1973.

TO THP1ST; Don't worry About this

GRAPH 1

ALL FISH DATA PROJECTIONS

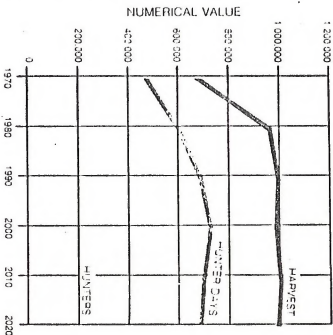
RESIDENT AND NON-RESIDENT ANGLERS, ANGLER DAYS AND STOCKING 3<sup>rd</sup> QUINCE 1970-2020



GRAPH 2

ALL GAME DATA PROJECTIONS

RESIDENT AND NON-RESIDENT HUNTERS, HUNTER DAYS AND HARVEST 3<sup>rd</sup> QUINCE 1970-2020

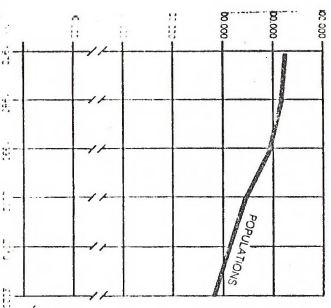


NCS

GRAPH 3

ALL GAME DATA PROJECTIONS

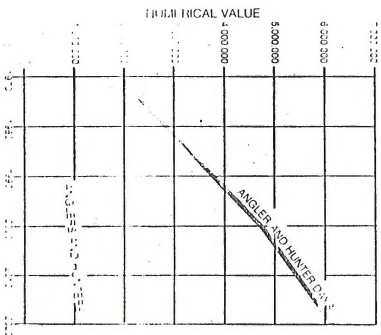
POPULATION STATEWIDE 1970-2020



GRAPH 4

ALL FISH AND GAME DATA PROJECTIONS

RESIDENT AND NON-RESIDENT ANGLERS AND HUNTERS, ANGLER AND HUNTER DAYS STATEWIDE 1970-2020



# RECREATION

## Required Analysis

### Hunting

Hunting is one of the major recreational activities in the planning area. Mule deer, chukar, and sage grouse hunter days account for 89.7 percent of all hunter days expended in Lander County.

TABLE 16

Comparison of Lander County to Statewide Total Hunting by Species a/

| Species     | Percent of<br>Habitat in<br>Lander Co.<br><u>on NRL</u> | Lander Co.<br><u>Hunter Days</u> | Percent of<br>Lander Co.<br><u>Hunter Days</u> | State of<br>Nevada<br><u>Hunter Days</u> | Lander Co.<br>Percent of<br>State<br><u>Hunter Days</u> |
|-------------|---------------------------------------------------------|----------------------------------|------------------------------------------------|------------------------------------------|---------------------------------------------------------|
| Mule Deer   | 62.8                                                    | 6,730 <u>b/</u>                  | 36.6                                           | 175,559                                  | 3.8                                                     |
| Sage Grouse | 73.3                                                    | 2,608                            | 14.2                                           | 16,038                                   | 16.3                                                    |
| Chukar      | 68.5                                                    | 7,074                            | 38.5                                           | 58,391                                   | 12.1                                                    |
| Quail       | 3.3                                                     | 51                               | 0.3                                            | 38,662                                   | 0.1                                                     |
| Rabbits     | 78.3                                                    | 905                              | 4.9                                            | 43,483                                   | 2.1                                                     |
| Doves       | 78.3                                                    | 613                              | 3.3                                            | 39,218                                   | 1.6                                                     |
| Ducks       | 1.0                                                     | <u>399</u>                       | <u>2.2</u>                                     | <u>86,024</u>                            | <u>0.5</u>                                              |
| TOTAL       |                                                         | 18,380                           | 100.0                                          | 457,375                                  | 4.0                                                     |

a/ From U.S.D.I. 1976 URA

b/ See Nevada Department of Fish and Game, Big Game Investigations and Hunting Season Recommendations, 1976, p. II-21, comments on population - status and trend for rationale. NDF&G indicated that deer herds would stay low rather than coming back up to average numbers.

Note that sage grouse and chukar hunter days are expended out of proportion to Lander County's overall contribution to State hunter days.

TABLE 17

Comparison of Resident to Non-Resident Hunting  
On the Three Major Species

| Species               | Resident<br>Hunter Days | Non-Resident<br>Hunter Days | Total<br>Hunter Days | Non-Resident<br>Percent of<br>Total Hunter<br>Days |
|-----------------------|-------------------------|-----------------------------|----------------------|----------------------------------------------------|
| Mule Deer <u>a/</u>   | 6,390                   | 440                         | 6,730                | 7.0                                                |
| Sage Grouse <u>b/</u> | 2,608                   | 0                           | 2,608                | 0.0                                                |
| Chukar <u>c/</u>      | <u>6,758</u>            | <u>316</u>                  | <u>7,074</u>         | <u>4.5</u>                                         |
| TOTALS                | 15,756                  | 756                         | 16,412               | 4.6                                                |

a/ Nevada Department of Fish and Game, Big Game Investigations and Hunting Season Recommendations, Questionnaire Tables H-1 and H-2, 1976.

b/ Nevada Department of Fish and Game, Upland Game, Migratory Game Birds, Fur Investigations, and Hunting Season Recommendations, Questionnaire Table A-4, 1976.

c/ Ibid, Questionnaire, Table C-4.

In terms of the absolute number of hunter days expended, non-resident hunter days are not significant in Lander County. Even though a non-resident hunting trip costs 2.5 times what a resident hunting trip costs (Garrett 1970, p. 58), the non-resident trip is generally longer in terms of days (4.0 non-resident vs 2.4 resident).<sup>1</sup> The effect of this is to lower the dollar contribution of the trip in terms of cost/day; non-resident cost/day = \$49.33, resident cost/day = \$32.55.<sup>2</sup> Dollar values work out such that non-resident mule deer hunters account for 24 percent<sup>3</sup> of all mule deer hunter expenditures in Lander County. Non-residents account for 3.3 percent<sup>4</sup> of all chukar and sage grouse hunter expenditures in Lander County. Non-resident hunter days expended on these three species account for 7.0 percent of all dollars expended on these species in Lander County. Non-resident hunter dollar expenditures are not considered significant in Lander County.

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<sup>1</sup>(Garrett 1970 p. 24), e.g., 44.6 percent of resident hunter's trips averaged 1.5 days, 6,290 (total resident hunter days) X .446 = 2,805 hunter days expended on 1.5 day trips, or 1,870 trips were taken in the 1.5 days/trip category. The sum of the trips for all days/trip categories is 2,605 trips accounting for 6,290 hunter days or an average of 2.4 days/trip.

However, the county of origin of resident hunter presents a picture of a large influx of non-Lander County residents (See Table 18). Churchill, Clark, and Washoe Counties account for 44 percent of the mule deer hunter days expended in Management Area 15; Lander County accounts for 39 percent of these hunter days. Churchill, Clark, and Washoe Counties also account for 73 percent of the sage grouse hunter days expended in Lander County; Lander County accounts for 13 percent of these hunter days. Clark and Washoe Counties account for 44 percent of the chukar hunter days expended in Lander County; Lander County accounts for 40 percent of these hunter days. Eighty-six percent of resident hunter days expended on the three major game species are accounted for by four counties: Lander 35 percent, Washoe 21 percent, Clark 20 percent, and Churchill 10 percent.

Economic significance of mule deer hunting in the Shoshone Planning Area:

From the information given in footnote 1 we can determine the number of mule deer hunting trips by resident and non-resident hunters. These values are 2,605 and 109 trips respectively.

From the information given in Characteristics of Nevada Hunters (Garrett, page 58, Table 32, 1970), the expenditure/trip for resident mule deer hunters (\$78.14/trip) as well as non-resident mule deer hunters (\$197.30/trip) is given.

Total resident mule deer hunting expenditure is (2,605 trips) X (\$78.14/trip) = \$203,555. Total non-resident mule deer hunting expenditure is (109 trips) X (\$197.30/trip) = \$21,506. Total mule deer hunting expenditures = \$255,061.

A total of 62.8 percent of the mule deer habitat is attributable to BLM managed land in Lander County (Table 16).

Total expenditures (\$255,061) X 62.8 percent = portion of total mule deer expenditures dependent on BLM managed land for deer population support (\$160,178).

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<sup>2</sup>Average expenditure/trip divided by average number of days/trip.

<sup>3</sup>Total non-resident hunter days (440) X average cost/day (\$149.33) = \$65,705.2. Total resident hunter days (6,290) X average cost/day (\$32.55) = \$204,739.5. Total expenditure = \$270,444.7  
 $\$21,705.2 / \$226,444.7 = 24$  percent.

<sup>4</sup>Total all hunter days (resident and non-resident) expended on chukar and sage grouse in Lander County 9,682. Average cost/hunter days = \$15.51. (Dollar values for resident - non-resident unavailable; source: U.S. Department of the Interior BLM Rock Springs District, Wyoming, Planning Area Analysis, 1976.)

$\$160,178 \times .26^5 = \$41,646$  direct income.  
 $\$41,646 \times 1.08^6 = \$44,977$  total income.  
 $\$44,977 \div 7,408^7 = 6.07$  jobs dependent on BLM managed mule deer habitat.  
 $\$160,178 \div 13,872,000^8 = 1$  percent of county income generated by BLM managed mule deer habitat.

Economic significance of sage grouse hunting in the Shoshone Planning Area:

From Table 17 above, residents expend 2,608 hunter days in Lander County while non-residents expend none.

From the information given in footnote 4, the dollar value of an upland game bird hunter day is given as \$15.51. No discrimination between resident - non-resident expenditures is made.

Total sage grouse hunting expenditure is (2,608 total hunter days)  $\times$  (\$15.51/hunter days) = \$40,450.

A total of 73.3 percent of the sage grouse habitat is attributable to BLM managed land in Lander County (Table 16).

Total expenditures (\$40,450)  $\times$  73.3% = portion of total sage grouse population support (\$29,650).

$\$29,650 \times .26^5 = \$7,709$  direct income.  
 $\$7,709 \times 1.08^6 = \$8,326$  total income.  
 $\$8,326 \div \$7,408^7 = 1.12$  jobs dependent on BLM managed sage grouse habitat.  
 $\$29,650 \div 13,872,000^8 = 0.2$  percent of county income generated by BLM managed sage grouse.

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<sup>5</sup>Direct Income Multiplier - (Malone J. and S. Detering, 1969).

<sup>6</sup>Trade & Service Sector Multiplier - (U.S. Department of Interior Social Economic Profile, 1976).

<sup>7</sup>Average County Income - (U.S. Department of Interior, Social Economic Profile 1976).

<sup>8</sup>Total County Income - (U.S. Department of Interior, Social Economic Profile 1976).

Economic Significance of chukar hunting in the Shoshone Planning Area:

From Table 17 above, residents expend 6,758 hunter days in Lander County while non-residents expend 316; total hunter days expended on chukar in Lander County is 7,074.

From the information given in footnote 4, the dollar value of an upland game bird hunter day is given as \$15.51. No discrimination between resident and non-resident expenditures is made.

Total chukar hunting expenditure is (7,074 total hunter days) X (\$15.51/day) = \$109,718.

68.5 percent of the chukar habitat is attributable to BLM managed land in Lander County (Table 16).

Total expenditures (\$109,718) X 68.5% = portion of total chukar expenditures dependent on BLM managed land for chukar population support (\$75,157).

$\$75,157 \times .26^9 = \$19,541$  direct income.

$\$19,541 \times 1.08^{10} = \$21,104$  total income

$\$21,104 \div \$7,408^{11} = 2.8$  jobs dependent on BLM managed chukar habitat.

$\$75,157 \div \$13,872,000^{12} = 0.5$  percent of county income generated by BLM managed chukar habitat.

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<sup>9</sup>Direct Income Multiplier - (Malone, J. and S. Detering, 1969).

<sup>10</sup>Trade & Service Sector Multiplier - (U.S. Department of Interior Social Economic Profile, 1976).

<sup>11</sup>Average County Income - (U.S. Department of Interior, Social Economic Profile 1976).

<sup>12</sup>Total County Income - (U.S. Department of Interior, Social Economic Profile 1976).

TABLE 18  
COUNTY OF ORIGIN AND PERCENTAGE OF RESIDENT HUNTER DAYS  
EXPENDED ON THE THREE MAJOR SPECIES<sup>a/</sup>

| County of origin | Mule deer <sup>b/</sup> |                        | Sage grouse          |                        | Chukar               |                        |
|------------------|-------------------------|------------------------|----------------------|------------------------|----------------------|------------------------|
|                  | Hunter days<br>6,290    | Percent of hunter days | Hunter days<br>2,608 | Percent of hunter days | Hunter days<br>6,758 | Percent of hunter days |
| Carson City      | --                      | --                     | 124                  | 4.8                    | 54                   | 0.8                    |
| Churchill        | 906 <sup>b/</sup>       | 14.4 <sup>b/</sup>     | 402                  | 16.1                   | 315                  | 4.7                    |
| Clark            | 802                     | 12.8                   | 511                  | 19.6                   | 1,742                | 25.7                   |
| Douglas          | 311                     | 4.9                    | 20                   | 0.8                    | 49                   | 0.7                    |
| Elko             | --                      | --                     | --                   | --                     | 340                  | 5.0                    |
| Esmeralda        | --                      | --                     | --                   | --                     | --                   | --                     |
| Eureka           | 78                      | 1.2                    | 5                    | 0.2                    | 74                   | 1.1                    |
| Humboldt         | --                      | --                     | 20                   | 0.8                    | 15                   | 0.2                    |
| Lander           | 2,459                   | 39.1                   | 333                  | 12.8                   | 2,725                | 40.3                   |
| Lincoln          | --                      | --                     | --                   | --                     | 20                   | 0.3                    |
| Lyon             | 207                     | 3.3                    | 105                  | 4.0                    | 143                  | 2.1                    |
| Mineral          | 233                     | 3.7                    | 31                   | 1.2                    | 38                   | 0.4                    |
| Nye              | 233                     | 3.7                    | 55                   | 2.1                    | 6                    | 0.1                    |
| Pershing         | --                      | --                     | --                   | --                     | 10                   | 0.1                    |
| Storey           | --                      | --                     | --                   | --                     | --                   | --                     |
| Washoe           | 1,061                   | 16.9                   | 965                  | 37.0                   | 1,227                | 18.2                   |
| White Pine       | --                      | --                     | 19                   | 0.7                    | --                   | --                     |

a/ These data are on Management Area 15 which is essentially the portion of Lander County within the Shoshone Planning Area.

b/ Nevada Department of Fish and Game, Big Game Investigations and Hunting Season Recommendations, 1976, Percent Deer Harvest by county or origin is given in Questionnaire Table F-3. Total deer harvest (243) is given in Table B-3. Thus, one is able to attribute a harvest to each county. The deer harvest (243 deer) took 6,290 total resident hunter days, this results in an average of 27.7 hunter days expended for each animal taken. Assuming that hunters from all counties are equally skilled and fortunate, one is able to convert the harvest of each county to hunter days expended by multiplying by 27.7. These hunter days can be converted to a percentage of total hunter days.

c/ Nevada Department of Fish and Game, Upland Game, Migratory Game Birds, Fur Investigations, and Hunting Season Recommendations. Carson City, Nevada, Questionnaire Table A-4, 1976.

d/ Ibid, Questionnaire, Table C-4.

## Fishing

Statewide during 1973 (NDF&G 1974) anglers spent 12 percent more fisherman days than during the previous year. During the same period Lander County fisherman days declined 18 percent.

TABLE 19

### Comparison of Lander County to Statewide Fisherman Days

#### Percentage Change

|               | <u>1972</u> | <u>1973</u> | <u>Change</u> |
|---------------|-------------|-------------|---------------|
| Nevada        | 1,614,684   | 1,820,694   | +12%          |
| Lander County | 21,305      | 17,398      | -18%          |

Source: Nevada Department of Fish and Game, Statewide Angler Questionnaire, Carson City, Nevada, 1974.

TABLE 20

### Shoshone Fisherman Days

| <u>Year</u>    | <u>Fisherman Days</u> | <u>Change From Previous Yr.</u> |
|----------------|-----------------------|---------------------------------|
| 1969           | 10,648                |                                 |
| 1970           | 11,675                | +9.6%                           |
| 1971           | 10,353                | -11.3%                          |
| 1972           | 13,746                | +32.8%                          |
| 1973           | 9,479                 | -31.0%                          |
| 5 year average | 11,180                |                                 |

Source: Nevada Department of Fish and Game, Statewide Angler Questionnaire, Carson City, Nevada, 1974.

In 1973 fisherman days on streams within the Shoshone Planning Area declined 31 percent from the previous year and were 15 percent below the five year average. These fisherman days were expended on 30 streams with a total fishable length of 89.9 miles.

#### Economic significance of fishing in the Shoshone Planning Area:

Twenty of the above mentioned streams, which account for 30.2 miles of fishable length, are wholly or partially on BLM managed land. This is 33.6 percent of the total fishable length of all streams in the Shoshone Planning Area. Assuming that fisherman days are distributed equally on each segment of fishable stream, 33.6 percent of all fisherman days expended within the Shoshone Planning Area are on BLM managed land.

From Table 20 above a five year average of 11,180 fisherman days per year are expended in the Shoshone Planning Area.  $(11,180) \times .336 = 3,756$  fisherman days expended on BLM managed land within the planning area.

From the information given in footnote 4, the dollar value of a fisherman day is given as \$13.69. No discrimination between resident - non-resident expenditures is made.

The total fishing expenditure attributable to streams on BLM managed land is  $(3,756 \text{ fisherman days}) \times (\$13.69/\text{fisherman day}) = \$51,419.64$ .

$$\$51,419.64 \times .26^{13} = \$13,369.$$

$$\$13,369 \times 1.08^{14} = \$14,438.$$

$$\$14,438 \div 7,408^{15} = 1.94 \text{ jobs dependent on BLM managed fishing streams segments.}$$

$$\$14,438 \div 13,872,000^{16} = .10 \text{ of county income generated by BLM managed fishing stream segments.}$$

#### General Visitor Use

##### Winter Sports

There are no commercial or designated winter sports sites in the planning area. Snow play reportedly takes place in the Mt. Lewis area (Battle Mountain residents) and the slopes around Austin; no data on this use is available (and it will be considered insignificant). Only one area within the planning area has adequate snow-fall for a ski area; this area is Mt. Callaghan (USDA 1971). Development of this potential is unlikely.

##### Water Sports

Only three usable water bodies exist within the planning area: Iowa Canyon Reservoir (25 surface acres), Willow Creek Reservoir (10 surface acres), and Smith Creek Reservoir (40 surface acres). Iowa Canyon Reservoir (0.1 mile) and Smith Creek Reservoir (1 mile) have BLM managed shorelines; Willow Creek Reservoir is owned by the

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<sup>13</sup>Direct Income Multiplier - (Malone, J. and S. Detering, 1969).

<sup>14</sup>Trade & Service Sector Multiplier - (U.S. Department of Interior Social Economic Profile, 1976).

<sup>15</sup>Average County Income - (U.S. Department of Interior, Social Economic Profile 1976).

<sup>16</sup>Total County Income - (U.S. Department of Interior, Social Economic Profile 1976).

Duval Corporation which has developed a picnic and camping area adjacent to the reservoir. Use of these reservoirs for any of the sub-activities associated with water sports is unknown (no data available) and considered insignificant. Future development at either of the reservoirs abutting BLM managed land is limited due to major water fluctuations (summer irrigation use).

#### Collecting

Rocks and Minerals No designated rock and mineral collecting areas exist in the planning area. Numerous areas indicated in various rock hunter's guides are cited as sources of common and semi-precious rocks and minerals; however, a close inspection of the land status of these sites shows a high coincidence between them and existing mining claims. No use data is available for this activity. For example see the following:

The Nevada Rock Finder, Mildred L. Pierce, Brittain Printing, Carson City, No date.

Rockhounds Map of Nevada, Nevada Bureau of Mines and Geology, University of Nevada, Reno, No date.

Nevada Rock Hunting, Department of Economic Development, Carson City, Nevada, No date.

Pinyon Pine Nuts Extensive stands of pinyon pine exist in the planning area and a large portion (See Socio-Cultural Values) of the local population has indicated that collecting the nuts produced by these trees is a favored activity during the harvest season. No additional data is available.

Illegal Collecting Collecting of historical and archaeological artifacts is reportedly a common activity in the planning area. The opportunities for this activity in the planning area are rated moderate to high (Waski 1977) compared to the Battle Mountain District as a whole. Numerous sites throughout the planning area have been collected or "potted" without the issuance of the required antiquities permit. Reportedly, 5.2 percent of all mule deer hunters statewide took part in "arrowhead, mineral, (or) bottle hunting" as "Other Recreation Activities" while on a hunting trip (UNR 1970). No additional data is available.

Specific Sightseeing Sightseeing on BLM managed land in Nevada is rated as 4.6 million visits annually accounting for 135,000 visitor days (USDI 1974, p. 79-80). This activity category is general sightseeing and undoubtedly includes many traffic count figures. The Nevada State Comprehensive Outdoor Recreation Plan (SCORP) states that..."Participation rates for (visiting historical sites) were generally low." (Stevens 1976, p. VI-45). The town of Austin is the principal specific [historic] sightseeing

opportunity in the planning area. Four State of Nevada historic markers exist within the town itself and an additional one is west of town on Highway 50. An estimate of as little as 10 percent of through traffic on this highway taking advantage of this sightseeing results in more than 30,000 visits annually (Nevada Department of Highways, 1974, p. 89). Using the conversion factor of (1:34) it is possible to reduce the visits to Austin to approximately 1,000 visitor days. This figure probably accounts for the bulk of specific sightseeing days expended in the planning area. Water for Nevada, Appendix D (Nevada Department of Water Resources, 1973, Table 6) did not list sightseeing specifically as one of the three most frequent activities associated with 36 identified recreation sites in the planning area.

Specialized Activities (ORV) There are no designated Off-Road Vehicle (ORV) areas in the planning area. There is a large discrepancy between estimates of ORV use made in the SCORP (1976-90, 428) (Stevens 1976, p. v-ii) and Denver Service Center (DSC) estimates of ORV use on BLM managed land in Nevada (1976, 490,000) (Cone 1974). There is undoubtedly some disagreement as to what an ORV event is comprised of. The SCORP may be addressing only activities in which ORV was the sole activity of participation; while the DSC estimates probably include ORV use as a means of access during other activities. Locally, the Battle Mountain Four Wheelers, a 14 vehicle club, takes an average of 15 outings per year. However, many of these outings are associated with hunting and fishing activity. No additional data is available.

General Pleasure Water for Nevada Appendix D (Nevada Department of Water Resources, 1973) lists 36 water related recreation sites within the planning area. Twenty-four of these are on BLM land, and 12 on U.S. Forest Service managed lands. The following is a summarization of the three most frequent activities occurring at each of these sites.

TABLE 21

## Recreation Sites in the Shoshone Planning Area\*

|                        | <u>Fishing</u>                 | <u>Hunting<br/>Big Game</u> | <u>Hunting<br/>Small Game</u> | <u>Trailer<br/>Camping</u> | <u>Picnicking</u> | <u>Relaxing</u> |
|------------------------|--------------------------------|-----------------------------|-------------------------------|----------------------------|-------------------|-----------------|
|                        | <u>Sites on BLM</u>            |                             |                               |                            |                   |                 |
| Number<br>of<br>Sites  | 11                             | 13                          | 15                            | 0                          | 5                 | 2               |
| Percent<br>of<br>Total | 24                             | 28                          | 33                            | 0                          | 11                | 4               |
|                        | <u>Sites on USFS</u>           |                             |                               |                            |                   |                 |
| Number<br>of<br>Sites  | 5                              | 19                          | 8                             | 4                          | 0                 | 0               |
| Percent<br>of<br>Total | 13                             | 52                          | 22                            | 11                         | 0                 | 0               |
|                        | <u>Total for Planning Area</u> |                             |                               |                            |                   |                 |
| Number<br>of<br>Sites  | 16                             | 23                          | 23                            | 4                          | 5                 | 2               |
| Percent<br>of<br>Total | 22                             | 32                          | 32                            | 5                          | 7                 | 3               |

\* From Nevada Department of Water Resources, 1973, Table 6.

Note that hunting and fishing consistently account for about 85 percent of the recreational use of the planning area.

(1) A large amount of camping is probably associated with the hunting and fishing activity taking place in the planning area. This does not show up in Table 21 because hunting or fishing would have been the response of a hunter or fisherman even if he/she was camping. We can use information supplied by recreation participation and expenditures in western states (Cone 1974) and Table 21 data on picnicking to get an estimate of camping use on BLM managed land in the planning area.

Hunting and fishing account for 85 percent of all recreation activity on BLM managed land. 12,208 hunter days + 3,756 fisherman days = 15,964.

18,562 is the total of all recreation days expended on BLM managed land within the planning unit.

From Table 21 above, 11 percent (2,042 picnic days) recreation use of BLM managed land is attributable to picnicking.

From Water for Nevada (Nevada Department of Water Resources, 1973) camping and picnicking occur on a ratio of almost 1:1 (.97).

Camping days on BLM managed land within the planning area are thus estimated/calculated at 1,980 camping days.

(2) From the above information, picnic occasions are estimated as 2,042 on BLM managed land.

Economic significance of general pleasure activities on BLM managed land within the Shoshone Planning Area.

From the above, 1,980 camping days and 1,021 picnicking days (assuming four hour average picnic) are expended on BLM managed land in the Shoshone Planning Area.

From the information given in footnote 4, the dollar values of camping and picnicking days are \$10.00 and \$6.00 respectively.

Total expenditure for these activities is  $(1,980 \times \$10) + (1,021 \times \$6) = \$25,926$ .

$\$25,926 \times .26^{17} = \$6,741$ .

$\$6,741 \times 1.08^{18} = \$7,280$ .

$\$7,280 \div 7,408^{19} = .98$  jobs dependent on BLM managed lands used for camping/picnic.

$\$7,280 \div 13,872,000^{20} = 0.5\%$ .

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<sup>17</sup>Direct Income Multiplier - (Malone, J. and S. Detering, 1969).

<sup>18</sup>Trade & Service Sector Multiplier - (U.S. Department of Interior, Social Economic Profile 1976).

<sup>19</sup>Average county income - (U.S. Department of Interior, Social Economic Profile 1976).

<sup>20</sup>Total county income - (U.S. Department of Interior, Social Economic Profile 1976).

### Significance

From the review of available data the following analysis of recreation use of the planning area is offered:

- 1). The majority of recreational use within the planning area is by local residents primarily for hunting and fishing.
- 2). County residents make a significant contribution to hunting use in the planning area. Churchill, Clark, and Washoe Counties account for 51 percent of all hunter days expended on the three principal game species within the planning area.
- 3). Out-of-State residents contribute only a small portion of the recreation use of the planning area, primarily hunting.
- 4). The majority of recreational use other than hunting takes place on Forest Service land within the planning area.
- 5). In general, outdoor recreation plays a minor role in the planning area's economy.

### The Future

Population projections in Water for Nevada (Nevada Division of Water Resources 1973) Volume 5, forecast a 35 percent population increase by 1990 in Lander County. The Nevada State Comprehensive Outdoor Recreation Plan (SCORP) (Stevens et al., 1976) projects a 40 percent increase over the same period. However, the growth in number of personal phones in Battle Mountain indicates the 1977 population of the town of Battle Mountain exceeds the 1990 projection made by both the above references.

Projections of "recreation attendance" made in Water for Nevada (Nevada Division of Water Resources 1973) forecast a 30 percent increase in all recreational activity within Lander County by 1990. No forecasts by county were made in the SCORP; however, projections on statewide increases by activity were made as indicated in Table 22.

TABLE 22

#### Statewide Forecasted Increase in Activity Occasion (Selected Activities 1990)

|         |     |
|---------|-----|
| Fishing | 57% |
| Hunting | 44% |
| ORV     | 50% |
| Picnic  | 59% |
| Camping | 57% |

Although Water for Nevada forecasts only a 30 percent increase in Lander County recreation occasions by 1990, it should be taken into account that Water for Nevada deals primarily with "water related recreation", a class of recreation that has limited potential in the planning area. The SCORP's projections of selected activities, although on a statewide basis, may present a more valid picture of future recreation use. Of these activities, hunting, ORV use, and camping have the greatest potential within the planning area for accommodating their share of the projected statewide increases. These projections could easily be met by an influx of out-of-county as well as out-of-state residents seeking an extensive recreation experience.

#### Future Recreation Development

The Lander County General Plan (Smith 1969) stresses the focus of the recreation program in Lander County as the "preservation of open spaces" (Smith 1969 p. 59) and the reservation of "... as much land as possible ...in perpetual open space...for activities such as...recreation...." Development of this open space should also be minimal. A survey of "residents opinion of camping facilities" (Garrett 1970, p. 44) indicate a majority opinion that development (campgrounds, tables, toilets, fireplaces, etc.) are "not available, and not needed" in Nevada. Drinking water development is the one item indicated as "needed".

## SOCIAL VALUES ANALYSIS

This section is divided into three sub-sections: Socio-cultural Values, Social Well-being and Activity Analysis, and Public Positions and Expectations.

### SOCIAL CULTURAL VALUES

The material documented in the following tables was gathered from the Battle Mountain District Social-Economic Profile, public participation, and interviews conducted with group leaders or representatives and community leaders of Battle Mountain, Austin, Lander County and Nevada. A list of groups interviewed follows.

Group leaders and spokesmen were contacted rather than using a random sample for two reasons: one was lack of time to interview a group large enough to represent the State of Nevada and another was that group leaders constitute an effective public that will try to speak for and influence their group on any public issue affecting the group interest.

Where there is a strong feeling or value identified with a particular group or groups, it was documented in the following tables. In the case of a general feeling, value or commonly held belief, the results are summarized below:

1. Most approve of the local BLM and its performance but object to the bureaucratic action of the BLM and the rules and regulations issued from Washington.
2. Most groups use public land for recreation, and value its lack of population and scenic values. However, they do not want to preserve these areas at the expense of their jobs and income.
3. It is commonly felt that Lander County is heavily dependent on mining and that diversification and a few more social services are needed.

List of Groups or Persons Interviewed

1. Lander County Commissioners
2. Editor, Reese River Reveille
3. Yomba Indians
4. U.S. Forest Service
5. University of Nevada Extension Service
6. Nevada Mining Association
7. Wild Horse Organized Assistance
8. Nevada Wildlife Association
9. Society for Range Management
10. Nevada State Museum
11. Nevada State Land Use Planning Advisory Council
12. Conservationist
13. Sierra Pacific Power Company
14. League of Women Voters
15. Editor, Battle Mountain Bugle
16. Nevada Division of Forestry
17. Sierra Club
18. Battle Mountain Chamber of Commerce
19. Local residents
20. Local miners
21. Local ranchers
22. Battle Mountain Indians
23. Lions Club
24. Lander County Planning Commission
25. Lander County Soil Conservation District
26. Battle Mountain Four Wheelers

TABLE 23  
Extent and Nature of Socio-Cultural Values  
Name or Group

| Item of Socio-Cultural Value    | Yomba<br>Indians | Local<br>Residents | Lander<br>County<br>Commissioners | Battle<br>Mountain<br>Chamber<br>of Commerce | Reese<br>River<br>Reveille |
|---------------------------------|------------------|--------------------|-----------------------------------|----------------------------------------------|----------------------------|
| Attachments to Area             | Home             | Home               | Home                              | Home                                         | Home                       |
| Relationship to BLM             | Grazing Leases   |                    |                                   |                                              |                            |
| Use of NRL                      | Grazing Rec.     | Recreation         | Recreation                        |                                              |                            |
| Desires for Land Use            | Grazing          | Development        | Development                       | Development                                  | Development                |
| Life Style                      |                  |                    |                                   |                                              |                            |
| Ranching                        | Lifestyle        | Lifestyle          |                                   |                                              |                            |
| Mining                          |                  | Occupation         |                                   | Occupation                                   | Lifestyle                  |
| Small Town                      |                  | Lifestyle          | Lifestyle                         | Lifestyle                                    | Lifestyle                  |
| Objects and Activities          |                  |                    |                                   |                                              |                            |
| Roads                           | Dependence       | Favor              |                                   |                                              | Occupation                 |
| Water Rights                    | Dependence       |                    |                                   | Change                                       |                            |
| Town Dumps                      |                  | Change             |                                   | Change                                       |                            |
| Desert Land Entries             | Opposition       | Favor              | Favor                             |                                              |                            |
| Pinyon Nuts                     | Preservation     | Recreation         | Recreation                        | Recreation                                   | Recreation                 |
| Wild Horses                     | Control          | Control            | Control                           | Control                                      | Control                    |
| Wildlife                        | Preservation     | Recreation         | Recreation                        | Preservation                                 |                            |
| Endangered Species              | Preservation     | Preservation       | Preservation                      | Preservation                                 | Preservation               |
| Hunting and Fishing             | Lifestyle        | Recreation         | Recreation                        | Recreation                                   | Recreation                 |
| Open Space & Scenery            | Preservation     | Preservation       | Preservation                      | Preservation                                 | Preservation               |
| Recreation                      | Control          | Development        | Development                       | Development                                  | Development                |
| Wilderness Areas                |                  |                    |                                   |                                              |                            |
| Cultural & Historical Artifacts | Culture          | Recreation         | Recreation                        | Recreation                                   | Recreation                 |
| Off-Road Vehicles               |                  | Jobs & Rec.        | Recreation                        | Recreation                                   | Lifestyle                  |
| Signs                           |                  | Opposition         |                                   | Approval                                     | Opposition                 |
| Rock Hounding                   |                  | Recreation         |                                   | Recreation                                   | Recreation                 |
| Community Services              |                  | Favor              |                                   |                                              |                            |
| General Development             |                  | Favor              |                                   | Approval                                     | Approval                   |

TABLE 23 (Cont.)  
Extent and Nature of Socio-Cultural Values  
Name or Group

| Item of Socio-Cultural Value    | Battle Mountain Bugle | U.S. Forest Service | University of Nevada Extension Service | Nevada Mining Association | Wild Horse Organized Assistance |
|---------------------------------|-----------------------|---------------------|----------------------------------------|---------------------------|---------------------------------|
| Attachments to Area             | Home                  | Management          | Extension                              | Mining                    | Habitat                         |
| Relationship to BLM             |                       |                     |                                        |                           | Horse Mgmt.                     |
| Use of NRL                      |                       |                     |                                        | Exploration               | Habitat                         |
| Desires for Land Use            | Preservation          | Management          | Agriculture                            | Mining                    | Habitat                         |
| Life Style                      |                       |                     |                                        |                           |                                 |
| Ranching                        |                       |                     | Extension                              |                           |                                 |
| Mining                          | Preservation          |                     |                                        | Lifestyle                 |                                 |
| Small Town                      | Preservation          |                     | Lifestyle                              | Lifestyle                 | Preservation                    |
| Objects and Activities          |                       |                     |                                        |                           |                                 |
| Roads                           |                       | Management          |                                        | Maintenance               | Opposition                      |
| Water Rights                    |                       |                     | Preservation                           |                           | Change                          |
| Town Dumps                      |                       | Change              |                                        |                           |                                 |
| Desert Land Entries             |                       | Planning            | Development                            |                           | Opposition                      |
| Pinyon Nuts                     |                       | Management          |                                        |                           | Recreation                      |
| Wild Horses                     |                       | Control             | Control                                | Control                   | Preservation                    |
| Wildlife                        | Preservation          | Management          | Management                             |                           | Preservation                    |
| Endangered Species              | Preservation          | Preservation        |                                        |                           | Preservation                    |
| Hunting and Fishing             |                       | Management          | Recreation                             | Recreation                |                                 |
| Open Space & Scenery            | Preservation          | Preservation        | Recreation                             |                           | Preservation                    |
| Recreation                      | Lifestyle             | Management          | Development                            |                           | Preservation                    |
| Wilderness Areas                | Preservation          | Preservation        |                                        | Opposition                | Preservation                    |
| Cultural & Historical Artifacts |                       | Preservation        |                                        |                           | Preservation                    |
| Off-Road Vehicles               | Recreation            | Control             | Control                                | Occupation                | Control                         |
| Signs                           |                       | Development         |                                        |                           | Control                         |
| Rock Mounding                   |                       | Recreation          |                                        | Occupation                | Recreation                      |
| Community Services              | Development           | Development         |                                        | Development               |                                 |
| General Development             |                       | Control             |                                        | Agreement                 |                                 |

TABLE 23 (Cont.)  
Extent and Nature of Socio-Cultural Values

Name or Group

| Item of Socio-Cultural Value    | Nevada<br>Wildlife<br>Association | Society for<br>Range<br>Management | Nevada<br>State<br>Museum | Nevada State<br>Land Use Planning<br>Advisory<br>Council | Conservationist |
|---------------------------------|-----------------------------------|------------------------------------|---------------------------|----------------------------------------------------------|-----------------|
| Attachments to Area             | Habitat                           | Range                              | Historical                |                                                          | Preservation    |
| Relationship to BLM             |                                   |                                    |                           |                                                          |                 |
| Use of NRL                      | Habitat                           | Grazing                            | Historical                | Planning                                                 | Preservation    |
| Desires for Land Use            | Habitat                           | Grazing                            | Historical                | Planning                                                 | Preservation    |
| Life Style                      |                                   |                                    |                           |                                                          |                 |
| Ranching                        |                                   | Management                         |                           |                                                          | Management      |
| Mining                          |                                   |                                    |                           |                                                          | Management      |
| Small Town                      |                                   | Lifestyle                          | Preservation              |                                                          |                 |
| Objects and Activities          |                                   |                                    |                           |                                                          |                 |
| Roads                           |                                   | Control                            | Control                   | Planning                                                 | Restriction     |
| Water Rights                    |                                   |                                    |                           |                                                          | Change          |
| Town Dumps                      | Change                            | Change                             | Historical                |                                                          |                 |
| Desert Land Entries             | Control                           | Change                             | Control                   |                                                          | Opposition      |
| Pinyon Nuts                     |                                   | Recreation                         | Cultural                  |                                                          | Recreation      |
| Wild Horses                     | Control                           | Control                            | Control                   | Control                                                  | Control         |
| Wildlife                        | Preservation                      | Management                         | Preservation              | Management                                               | Management      |
| Endangered Species              | Preservation                      | Preservation                       | Preservation              | Preservation                                             | Preservation    |
| Hunting and Fishing             | Recreation                        | Management                         | Management                | Management                                               | Management      |
| Open Space & Scenery            | Preservation                      | Preservation                       | Preservation              | Preservation                                             | Preservation    |
| Recreation                      | Preservation                      | Management                         | Management                | Planning                                                 | Management      |
| Wilderness Areas                |                                   | Control                            | Preservation              |                                                          | Preservation    |
| Cultural & Historical Artifacts | Preservation                      |                                    | Management                | Preservation                                             | Preservation    |
| Off-Road Vehicles               | Control                           | Control                            | Control                   | Control                                                  | Restriction     |
| Signs                           | Development                       |                                    | Approval                  | Approval                                                 | Maintenance     |
| Rock Hounding                   |                                   |                                    | Control                   | Recreation                                               | Control         |
| Community Services              | Development                       |                                    |                           | Development                                              | Development     |
| General Development             |                                   |                                    |                           | Approval                                                 | Control         |

TABLE 23 (Cont.)  
Extent and Nature of Socio-Cultural Values  
Name or Group

| Item of Socio-Cultural Value    | Sierra Pacific Power Company | League of Women Voters | Nevada Division of Forestry | Sierra Club  | Local Miners |
|---------------------------------|------------------------------|------------------------|-----------------------------|--------------|--------------|
| Attachments to Area             |                              |                        |                             | Preservation | Home         |
| Relationship to BLM             |                              |                        |                             |              |              |
| Use of NRL                      |                              | Recreation             | Recreation                  | Recreation   | Prospecting  |
| Desires for Land Use            | Development                  |                        | Forestry                    | Preservation | Mining       |
| Life Style                      |                              |                        |                             |              |              |
| Ranching                        |                              |                        |                             |              |              |
| Mining                          | Development                  |                        | Management                  |              | Occupation   |
| Small Town                      |                              | Preservation           | Preservation                |              | Lifestyle    |
| Objects and Activities          |                              |                        |                             |              |              |
| Roads                           | Management                   | Control                | Maintenance                 | Limitation   | Access       |
| Water Rights                    |                              |                        |                             | Change       |              |
| Town Dumps                      |                              |                        | Change                      | Change       | Change       |
| Desert Land Entries             | Development                  |                        |                             | Opposition   | Approval     |
| Pinyon Nuts                     | Recreation                   | Recreation             | Development                 | Management   | Recreation   |
| Wild Horses                     | Control                      | Control                | Management                  | Control      | Control      |
| Wildlife                        | Preservation                 | Preservation           | Preservation                | Preservation | Preservation |
| Endangered Species              | Preservation                 | Preservation           | Preservation                | Preservation | Preservation |
| Hunting and Fishing             | Recreation                   | Control                | Management                  | Recreation   | Recreation   |
| Open Space & Scenery            | Preservation                 | Preservation           | Preservation                | Preservation | Preservation |
| Recreation                      |                              |                        | Development                 | Control      | Development  |
| Wilderness Areas                |                              | Preservation           | Limitation                  | Preservation | Limitation   |
| Cultural & Historical Artifacts | Preservation                 | Preservation           | Preservation                | Preservation | Recreation   |
| Off-Road Vehicles               | Control                      | Control                | Control                     | Restriction  | Necessity    |
| Signs                           | Approval                     | Control                | Management                  | Control      |              |
| Rock Hounding                   |                              |                        | Control                     | Control      | Recreation   |
| Community Services              | Development                  |                        |                             |              | Development  |
| General Development             | Approval                     |                        |                             | Restriction  | Approval     |

TABLE 23 (Cont.)  
Extent and Nature of Socio-Cultural Values  
Name or Group

| Item of Socio-Cultural Value    | Local Ranchers | Lions Club   | Battle Mountain Four Wheelers | Lander County Planning Commission | Battle Mountain Indians |
|---------------------------------|----------------|--------------|-------------------------------|-----------------------------------|-------------------------|
| Attachments to Area             | Home           | Home         | Home                          | Home                              | Home                    |
| Relationship to BLM             | Grazing Leases |              |                               | Occupation                        | Occupation              |
| Use of NRL                      | Grazing        |              | Recreation                    | Recreation                        | Recreation              |
| Desires for Land Use            | Grazing        | Recreation   | Recreation                    | Recreation                        | Preservation            |
| Life Style                      |                |              |                               |                                   |                         |
| Ranching                        | Lifestyle      |              |                               |                                   | Occupation              |
| Mining                          |                |              | Occupation                    | Occupation                        | Occupation              |
| Small Town                      |                | Lifestyle    | Lifestyle                     | Lifestyle                         | Preservation            |
| Objects and Activities          |                |              |                               |                                   |                         |
| Roads                           | Access         | Access       | Recreation                    | Access                            | Control                 |
| Water Rights                    | Necessity      |              |                               |                                   | Change                  |
| Town Dumps                      |                | Change       | Change                        |                                   | Change                  |
| Desert Land Entries             | Opposition     | Approval     | Approval                      |                                   | Opposition              |
| Pinyon Nuts                     | Recreation     | Recreation   | Recreation                    | Recreation                        | Preservation            |
| Wild Horses                     | Opposition     | Restriction  | Restriction                   |                                   | Control                 |
| Wildlife                        |                | Preservation | Preservation                  | Recreation                        | Preservation            |
| Endangered Species              |                | Preservation | Preservation                  |                                   | Preservation            |
| Hunting and Fishing             | Recreation     | Recreation   | Management                    | Recreation                        | Management              |
| Open Space & Scenery            | Preservation   | Preservation | Preservation                  |                                   | Preservation            |
| Recreation                      |                |              | Approval                      | Approval                          | Management              |
| Wilderness Areas                |                | Preservation |                               | Limitation                        | Preservation            |
| Cultural & Historical Artifacts | Recreation     | Preservation | Recreation                    |                                   | Preservation            |
| Off-Road Vehicles               | Access         | Control      | Recreation                    | Recreation                        | Limitation              |
| Signs                           | Opposition     | Approval     | Opposition                    | Approval                          | Opposition              |
| Rock Hounding                   |                | Approval     |                               |                                   |                         |
| Community Services              | Development    | Development  | Development                   | Development                       | Development             |
| General Development             |                |              | Approval                      | Approval                          | Approval                |

### Identification and Nature Table

The groups in the extent and nature of the preceding Socio-Cultural Value table are not necessarily socio-cultural groups, but are instead mostly special interest groups which are concerned about the Shoshone Planning Area or some object of value contained in the area. The preceding was used because of the difficulty in identifying and isolating specific socio-cultural groups that would be most active in stating positions on BLM proposals and actions. Accordingly, the feelings and beliefs of these groups of people were analyzed in relation to specific values and objects.

### Determining Significance

Again, the groups holding the values rated in the following table are not all socio-cultural groups, but also include special interest groups; therefore, the survival of the group was considered, rather than the survival of the culture or group physical survival.

### SOCIAL WELL-BEING

This section is intended to examine the communities of the Shoshone Planning Area with respect to the State of Nevada by examining common quantifiable indicators. These include population, income, crime rates, infant mortality, and expenditure on education. This data was obtained from various State and local government agencies.

Table 27 compares the State of Nevada with Lander County in order to identify indicators which are significantly different between the State and county. Depending on community values, these indicators may be considered bad or good. For instance, a negative difference in per capita income (county is less than State) may be seen as bad, whereas a negative unemployment rate (county is less than State) may be seen as good.

The social well-being thrust analysis at the end of this section is intended to analyze each BLM activity as it affects social well-being.

### Identification and Nature

#### Population Change

The geographic area of Lander County does not coincide exactly with the Shoshone Planning Area. However, the population distribution in the area is close enough to be able to equate Lander County and the Shoshone Resource Area for population purposes. The 1960 census indicated a population of 1,566 and the 1970 census counted 2,666. An estimate of the 1975 population is

Table 24

Rating of Socio-Cultural Values

Austin & Battle Mtn.  
 Group Townpeople  
 Value Small Town  
Lifestyle

| Criteria                                                                                      | High             | Medium             | Low                |
|-----------------------------------------------------------------------------------------------|------------------|--------------------|--------------------|
| Percent Holding Value                                                                         | High             |                    |                    |
| Time Group Has Held Value                                                                     |                  | Three Generations  |                    |
| Uniqueness of Object to Value                                                                 |                  | Limited Transfer   |                    |
| Relationship to Survival of Group                                                             |                  | Limited Dependence |                    |
| Intensity of Relationship                                                                     |                  |                    | Mixed Feelings     |
| Group Value <u>General</u><br><u>Opposition</u><br><u>To Government</u><br><u>Restriction</u> |                  |                    |                    |
| Criteria                                                                                      | High             | Medium             | Low                |
| Percent Holding Value                                                                         | High             |                    |                    |
| Time Group Has Held Value                                                                     | Four Generations |                    |                    |
| Uniqueness of Object to Value                                                                 |                  |                    | Unlimited Transfer |
| Relationship to Survival Group                                                                |                  | Limited Dependence |                    |
| Intensity of Relationship                                                                     |                  | Moderate           |                    |

Table 24 (cont.)

Rating of Socio-Cultural Values

Group Sierra Pacific Power  
 Value Powerline  
Development

| Criteria                                                                                | High              | Medium                      | Low                 |
|-----------------------------------------------------------------------------------------|-------------------|-----------------------------|---------------------|
| Percent Holding Value                                                                   |                   | Medium                      |                     |
| Time Group Has Held Value                                                               |                   |                             | One Generation      |
| Uniqueness of Object to Value                                                           |                   | Limited Transfer            |                     |
| Relationship to Survival of Group                                                       |                   | Limited Economic Dependence |                     |
| Intensity of Relationship                                                               |                   |                             | Little Emotion      |
| Miners and local Group Residents Value <u>Opposition to Proposed Mining Regulations</u> |                   |                             |                     |
| Criteria                                                                                | High              | Medium                      | Low                 |
| Percent Holding Value                                                                   | High              |                             |                     |
| Time Group Has Held Value                                                               |                   |                             | Since December 1976 |
| Uniqueness of Object to Value                                                           |                   | Limited Transfer            |                     |
| Relationship to Survival Group                                                          | Perceived as High |                             |                     |
| Intensity of Relationship                                                               | High Emotion      |                             |                     |

Table 24 (Cont.)

Rating of Socio-Cultural Values

Group      Conservation  
Value      Groups  
            Wilderness  
            Areas

| Criteria                                                                   | High             | Medium           | Low                |
|----------------------------------------------------------------------------|------------------|------------------|--------------------|
| Percent Holding Value                                                      | High             |                  |                    |
| Time Group Has Held Value                                                  |                  | Two Generations  |                    |
| Uniqueness of Object to Value                                              | Unique           |                  |                    |
| Relationship to Survival of Group                                          |                  |                  | Limited Dependence |
| Intensity of Relationship                                                  | High             |                  |                    |
| Group      Local Residents<br>Value <u>Hunting &amp;</u><br><u>Fishing</u> |                  |                  |                    |
| Criteria                                                                   | High             | Medium           | Low                |
| Percent Holding Value                                                      | High             |                  |                    |
| Time Group Has Held Value                                                  | Four Generations |                  |                    |
| Uniqueness of Object to Value                                              |                  | Limited Transfer |                    |
| Relationship to Survival Group                                             |                  |                  | Limited Dependence |
| Intensity of Relationship                                                  |                  | Some Emotion     |                    |

Table 24 (Cont.)

Rating of Socio-Cultural Values

Group Ranchers  
 Value Predator Control

| Criteria                          | High             | Medium                        | Low             |
|-----------------------------------|------------------|-------------------------------|-----------------|
| Percent Holding Value             | High             |                               |                 |
| Time Group Has Held Value         | Four Generations |                               |                 |
| Uniqueness of Object to Value     |                  | Limited Transfer              |                 |
| Relationship to Survival of Group |                  | Perceived Economic Dependence |                 |
| Intensity of Relationship         | High Emotion     |                               |                 |
| Conservation Group Value          |                  |                               |                 |
| Groups Rare & Endangered Species  |                  |                               |                 |
| Criteria                          | High             | Medium                        | Low             |
| Percent Holding Value             | High             |                               |                 |
| Time Group Has Held Value         |                  |                               | Two Generations |
| Uniqueness of Object to Value     | Unique           |                               |                 |
| Relationship to Survival Group    |                  | Perceived Independence        |                 |
| Intensity of Relationship         | High             |                               |                 |

Table 24 (Cont.)

Rating of Socio-Cultural Values

Group Ranchers  
 Value Ranching Lifestyle

| Criteria                                                                 | High                | Medium                      | Low |
|--------------------------------------------------------------------------|---------------------|-----------------------------|-----|
| Percent Holding Value                                                    | High                |                             |     |
| Time Group Has Held Value                                                | Four Generations    |                             |     |
| Uniqueness of Object to Value                                            | Unique              |                             |     |
| Relationship to Survival of Group                                        | Complete Dependence |                             |     |
| Intensity of Relationship                                                | High                |                             |     |
| Group <u>Miners &amp; Prospectors</u><br>Value <u>Mining Law of 1872</u> |                     |                             |     |
| Criteria                                                                 | High                | Medium                      | Low |
| Percent Holding Value                                                    | High                |                             |     |
| Time Group Has Held Value                                                | Four Generations    |                             |     |
| Uniqueness of Object to Value                                            | Perceived as Unique |                             |     |
| Relationship to Survival Group                                           |                     | Limited Economic Dependence |     |
| Intensity of Relationship                                                | High                |                             |     |

Rating of Socio-Cultural Values

Indians and  
Group Other Residents  
Value Pine Nuts Food-Social

| Criteria                                           | High              | Medium           | Low               |
|----------------------------------------------------|-------------------|------------------|-------------------|
| Percent Holding Value                              | High              |                  |                   |
| Time Group Has Held Value                          | Four Generations  |                  |                   |
| Uniqueness of Object to Value                      |                   | Limited Transfer |                   |
| Relationship to Survival of Group                  |                   |                  | Little Dependence |
| Intensity of Relationship                          | High              |                  |                   |
| Group <u>Ranchers</u><br>Value <u>Water Rights</u> |                   |                  |                   |
| Criteria                                           | High              | Medium           | Low               |
| Percent Holding Value                              | High              |                  |                   |
| Time Group Has Held Value                          | Four Generations  |                  |                   |
| Uniqueness of Object to Value                      |                   | Limited Transfer |                   |
| Relationship to Survival Group                     | Perceived as High |                  |                   |
| Intensity of Relationship                          | High              |                  |                   |

Table 24 (Cont.)

Rating of Socio-Cultural ValuesGroup Wild Horse GroupsValue Wild Horses

| Criteria                                                                  | High | Medium                      | Low                                      |
|---------------------------------------------------------------------------|------|-----------------------------|------------------------------------------|
| Percent Holding Value                                                     | High |                             | One Generation                           |
| Time Group Has Held Value                                                 |      |                             |                                          |
| Uniqueness of Object to Value                                             |      | Limited Transfer            |                                          |
| Relationship to Survival of Group                                         |      | Limited Dependence of Group |                                          |
| Intensity of Relationship                                                 | High |                             |                                          |
| Group <u>Ranchers</u><br>Value <u>Opposition to</u><br><u>Wild Horses</u> |      |                             |                                          |
| Criteria                                                                  | High | Medium                      | Low                                      |
| Percent Holding Value                                                     | High |                             | Limited Economic Damage from Wild Horses |
| Time Group Has Held Value                                                 |      | Two-Four Generations        |                                          |
| Uniqueness of Object to Value                                             |      | Limited Transfer            |                                          |
| Relationship to Survival Group                                            |      |                             |                                          |
| Intensity of Relationship                                                 |      | Medium                      |                                          |

Table 24 (Cont.)

Rating of Socio-Cultural Values

| <u>Values</u>                                | <u>Rationale</u>                      |
|----------------------------------------------|---------------------------------------|
| High Significance:                           |                                       |
| a. Ranching Lifestyle                        | Length of Time Group Has Held Value   |
| b. Water Rights                              | Dependence of Group on Value          |
| c. Mining Law of 1872                        | High Emotion and Uniqueness of Object |
| d. Historical and Cultural Artifacts         | Uniqueness of Object to Value         |
| Medium Significance:                         |                                       |
| a. Wilderness Areas                          | Uniqueness of Object                  |
| b. Hunting & Fishing                         | Length of Time Group Has Held Value   |
| c. Predator Control                          | Length of Time Group Has Held Value   |
| d. Rare and Endangered Species               | Uniqueness of Object                  |
| e. Wild Horses                               | High Emotion                          |
| f. Opposition to Governmental Restriction    | Length of Time Group Has Held Value   |
| Limited Significance:                        |                                       |
| a. Small Town Lifestyle                      | Percent Holding Value                 |
| b. Powerline Development                     | Limited Economic Dependence           |
| c. Opposition to Proposed Mining Regulations | Perceived Dependence of Group         |
| d. Pine Nuts                                 | Limited Dependence of Group           |
| e. Opposition to Wild Horses                 | Medium Emotion of Group               |

3,281 (Chu 1977). However, local residents feel the population is closer to 4,000 people. The boom in barite mining that has taken place since 1968 is considered the main reason for the sudden growth. Since no accurate count will be taken until the 1980 census, the most commonly accepted population figure is 3,281.

The planning area is linked to other communities by the resource base (mining and agriculture) for which activity stimuli are primarily national or international events. Examples are: price of feeder cattle, demand for barite as a petroleum well-drilling input, and factors which affect the general level of tourism.

#### Real Personal Income

Lander County per capita income was 135 percent of the U.S. average in 1950 and 125 percent of the U.S. average in 1972. Effective (median) buying income was estimated to be 93 percent of the Nevada median in 1972. (Sales Management, 1976, p. 46).

#### Unemployment Rate

The rate of unemployment in 1976 was considerably lower in Lander County than in Nevada as a whole. One possible explanation lies in the recent barite mining increase.

#### Average Population Density

The population density difference between the State of Nevada and Lander County is significant and is one of the most distinguishing characteristics of the counties in Central Nevada. The low population density is seen as desirable by the local population, however, many would prefer some of the social amenities that come with a larger population.

#### Crime Rate

The amount of serious crime jumped from 24 to 41 between 1974 and 1975 while total crimes went from 169 to 260 with 404 arrests in 1976. However, the local population seems to perceive the crime rate as low and not as a real problem.

#### Infant Mortality

This common measure of health care shows Lander County with a lower rate. However, the low number of live births in a rural county can mean that the infant mortality rate can swing wildly with only a small change in actual numbers.

Table 25

SELECTED SOCIO-ECONOMIC CHARACTERISTICS FOR MINOR CIVIL DIVISIONS AND PLACES  
EUREKA AND LANDER COUNTIES  
NEVADA, 1970 <sup>a/</sup>

|                                                    | Eureka County |            |            | Lander County             |                 |            |
|----------------------------------------------------|---------------|------------|------------|---------------------------|-----------------|------------|
|                                                    | Beowawe Twp   | Eureka Twp | Eureka Co. | Argenta Twp <sup>b/</sup> | Battle Mountain | Austin Twp |
| 1. Population 1970                                 | 410           | 580        | 980        | 2,131                     | 1,856           | 333        |
| 2. Population Distribution (%)                     | 41.4          | 58.6       | 100        | 67.5                      | 69.6            | 12.5       |
| 3. Per Capita Income 1969 (\$) <sup>c/</sup>       | 2,500         | 2,610      | 2,565      | 2,389                     | -               | 4,628      |
| 4. Families Below Poverty Level (%)                | 7.9           | 12.0       | 10.4       | 21.1                      | -               | 5.6        |
| 5. Rural Population (%)                            | 100           | 100        | 100        | 100                       | 0               | 100        |
| 6. Racial Composition (%)                          | 93.9          | 97.8       | 96.2       | 91.9                      | 97.3            | 100        |
| White                                              | 0.0           | 0.0        | 0.0        | 0.2                       | 0.0             | 0.0        |
| Black                                              | 0.0           | 0.0        | 0.0        | 0.2                       | 0.0             | 0.2        |
| Indian                                             | 6.1           | 3.2        | 3.8        | 7.7                       | 2.6             | 0.0        |
| Other                                              | 0.0           | 0.0        | 0.0        | 0.2                       | 0.1             | 0.0        |
| 7. New Residents of Nevada Since 1965              | 28.1          | 43.4       | 35.9       | 43.6                      | -               | 37.0       |
| 8. Total Housing Units Distribution (%)            | 27.8          | 72.2       | 100        | 80.9                      | 67.7            | 19.1       |
| 9. Housing Units Occupied Some Time Since 1965 (%) | 15.8          | 19.7       | 18.2       | 4.1                       | 4.2             | 8.1        |
| 10. Housing Units with 1 or 2 Persons/Room         | 11.6          | 6.4        | 8.4        | 12.5                      | 10.6            | 6.9        |
| 11. Total Employment Distribution (%)              | 56.3          | 63.7       | 100        | 84.3                      | 15.7            | 100        |

Table 25 (cont.)

|                                            | Eureka County |            |            | Lander County             |                 |            |
|--------------------------------------------|---------------|------------|------------|---------------------------|-----------------|------------|
|                                            | Beowawe Twp   | Eureka Twp | Eureka Co. | Argenta Twp <sup>b/</sup> | Battle Mountain | Austin Twp |
| 12. Employment Composition by Industry (%) | 2.5           | 14.5       | 10.1       | 1.6                       | 9.3             | 2.8        |
| Construction                               | -0.0          | 1.1        | 0.7        | 2.7                       | 0.0             | 2.2        |
| Manufacturing                              | 0.0           | 0.7        | 0.4        | 1.5                       | 0.0             | 1.5        |
| Transportation                             | 0.0           | 3.9        | 2.5        | 1.0                       | 3.7             | 1.4        |
| Communications, Utilities                  | 0.0           | 5.2        | 2.5        | 1.0                       | 18.5            | 11.0       |
| Trade                                      | 3.7           | 14.5       | 10.6       | 9.5                       | 18.5            | 11.0       |
| Finance                                    | 2.5           | 2.5        | 2.5        | 2.5                       | 3.1             | 2.4        |
| Other Professionals                        | 2.5           | 2.1        | 2.2        | 5.6                       | 0.0             | 4.3        |
| Educational Services                       | 8.1           | 7.8        | 7.9        | 8.6                       | 2.5             | 7.7        |
| Public Administration                      | 6.8           | 5.6        | 6.1        | 8.2                       | 25.3            | 10.9       |
| Other Services                             | 73.9          | 47.3       | 37.0       | 58.9                      | 37.6            | 55.6       |
| 13. Employed Persons by Occupation (%)     | 14.9          | 5.3        | 8.8        | 18.0                      | 11.7            | 17.9       |
| Managers & Farm Managers                   | 14.3          | 11.7       | 12.6       | 7.8                       | 11.7            | 17.9       |
| Managers                                   | 5.0           | 9.5        | 7.9        | 5.9                       | 22.8            | 8.5        |
| Clerical                                   | 6.8           | 8.8        | 8.1        | 10.6                      | 20.4            | 12.1       |
| Sales Workers                              | 0.0           | 0.0        | 0.0        | 2.2                       | 3.1             | 2.3        |
| Craftsmen, Foremen                         | 24.2          | 12.0       | 16.4       | 17.8                      | 12.4            | 17.0       |
| Operatives                                 | 14.9          | 7.8        | 10.4       | 23.1                      | 0.0             | 18.6       |
| Service Workers                            | 8.1           | 17.7       | 14.2       | 11.0                      | 7.4             | 10.5       |
| Farm Laborers & Foremen                    | 9.3           | 21.2       | 16.9       | 6.8                       | 10.5            | 7.4        |
| Laborers except Farm & Mine                | 2.5           | 6.0        | 4.7        | 1.9                       | 4.9             | 2.4        |

<sup>a/</sup> Source: U.S. Bureau of Census, First and Fifth Count Microfilm: Nevada, 1970. Census Users Service Division, Washington, D.C., 1971.

<sup>b/</sup> Battle Mountain Town is a "place" (incorporated or unincorporated urbanized area) within the Argenta Township.

<sup>c/</sup> All "places" (incorporated and unincorporated towns) are classified as "urban" for purposes of this description.

Table 26  
BATTLE MOUNTAIN DSR POPULATION ESTIMATES AND COMPONENTS  
OF CHANGE, 1960, 1970, 1973, & 1974

|                                            | POPULATION         |                    |                    |                    | COMPONENTS OF CHANGE <sup>a/</sup><br>1970-1973 |        |                         |         |
|--------------------------------------------|--------------------|--------------------|--------------------|--------------------|-------------------------------------------------|--------|-------------------------|---------|
|                                            | 1960 <sup>a/</sup> | 1970 <sup>b/</sup> | 1973 <sup>c/</sup> | 1974 <sup>d/</sup> | BIRTHS                                          | DEATHS | NET MIGRATION<br>NUMBER | PERCENT |
| COUNTIES &<br>1970 CENSUS<br>SUBDIVISIONS: |                    |                    |                    |                    |                                                 |        |                         |         |
| EUREKA                                     | 767                | 948                | 850                | 992                | Z                                               | Z      | -200                    | -15.8   |
| Beowawe Twp                                |                    | 401                |                    |                    |                                                 |        |                         |         |
| Eureka Twp                                 |                    | 547                |                    |                    |                                                 |        |                         |         |
| LANDER                                     | 1,566              | 2,666              | 2,647              | 2,372              | 200                                             | 100    | -100                    | - 5.3   |
| Argenta Twp                                |                    | 2,252              |                    |                    |                                                 |        |                         |         |
| (Battle Mtn)                               |                    | 1,856              |                    |                    |                                                 |        |                         |         |
| Austin Twp                                 |                    | 414                |                    |                    |                                                 |        |                         |         |
| NYE                                        | 4,374              | 5,599              | 5,030              | 4,300              | 200                                             | 200    | -600                    | - 10.9  |
| Beatty Twp                                 |                    | 1,131              |                    |                    |                                                 |        |                         |         |
| Gabbs Twp                                  |                    | 1,000              |                    |                    |                                                 |        |                         |         |
| (Gabbs)                                    |                    | 874                |                    |                    |                                                 |        |                         |         |
| Fahrum Twp                                 |                    | 963                |                    |                    |                                                 |        |                         |         |
| Round Mtn Twp                              |                    | 215                |                    |                    |                                                 |        |                         |         |
| Tonopah Twp                                |                    | 2,280              |                    |                    |                                                 |        |                         |         |
| (Tonopah)                                  |                    | 1,716              |                    |                    |                                                 |        |                         |         |
| DSR:                                       |                    |                    |                    |                    |                                                 |        |                         |         |
| Battle Mountain                            | 6,707              | 9,213              | 8,527              | 8,664              | 400+                                            | 300+   | -900                    | - 9.7   |
| STATE:                                     |                    |                    |                    |                    |                                                 |        |                         |         |
| Nevada                                     | 285,278            | 488,738            | 551,161            | 583,563            | 30,000                                          | 13,000 | 42,000                  | + 8.6   |

Z = Less than 50 or less than 0.5%

BATTLE MOUNTAIN DSR POPULATION ESTIMATES AND COMPONENTS  
OF CHANGE, 1960, 1970, 1973, & 1974

References:

- <sup>a/</sup> U.S. Bureau of the Census, U.S. Census of Population: 1960, Number of Inhabitants, Nevada, Final Report PC(1) - 20A, Washington, D.C.: U.S.G.P.O., 1960. (9553)
- <sup>b/</sup> U.S. Bureau of the Census, U.S. Census of Population: 1970, Number of Inhabitants, Final Report PC(1) A-30 Nevada, Washington D.C.: U.S.G.P.O., 1971. (9553)
- <sup>c/</sup> U.S. Bureau of the Census, Current Population Reports: Population Estimates and Projections, Series P-25, No. 573, March 1975. (9553)
- <sup>d/</sup> Chu, Shih-fan, Nevada Population by Counties, Bureau of Business and Economic Research, University of Nevada, Reno, November 1974.
- <sup>e/</sup> U.S. Bureau of the Census, Estimates of the Population of Nevada Counties: July 1, 1972 and 1973, Federal-State Coop. Program for Local Population Estimates.

#### Expenditure on Education Per Pupil

Funding is largely made up of State and Federal transfer payments. However, it does give a quantifiable measure of educational opportunity.

#### Death Rate from Alcoholism

This measure must also be looked at from the viewpoint that a few deaths can greatly affect the rate in a lightly populated county.

### Significance of Social Well-Being

The following table (Table 27) is intended as a method of comparing the State with the county and the resource area on the basis of quantitatively measurable indicators. These indicators are examined to determine if the county or planning area is statistically different from the State. A statistically different indicator, whether the sign is positive or negative, does not connote good or bad, but must be examined in the light of community social goals and desires.

Table 27

Significance of Social Well Being

| <u>Well-Being Factors</u>                                                                     | <u>State(a)</u> | <u>Lander(b)</u> | <u>Percent Difference</u> |
|-----------------------------------------------------------------------------------------------|-----------------|------------------|---------------------------|
| 1. Population Change<br>(Average Annual Rate<br>of Change): 1960-1970                         | 5.5%            | 7.0%             | $(b-a)/b = 21$            |
| 2. Per Capita Income (1974) <sup>a/</sup>                                                     | \$6,033         | \$5,989          | $(b-a)/b = -1$            |
| 3. Unemployment Rate<br>(FY 1976) <sup>e/</sup>                                               | 8.8%            | 3.5%             | $(b-a)/b = -15^*$         |
| 4. Number of persons on<br>welfare per 1,000<br>population <sup>c/</sup>                      | 29.16           | 21.01            | $(b-a)/b = 38$            |
| 5. Average population<br>density (Persons per<br>square mile) <sup>d/</sup>                   | 4.4             | 0.5              | $(b-a)/b = -780^*$        |
| 6. Crime Rate 1975 <sup>e/</sup><br>(Arrests for serious<br>offenses per 1,000<br>population) | 17.02           | 13.73            | $(b-a)/b = -24$           |
| 7. Infant Mortality Rate<br>(Per 1,000 live births) <sup>f/</sup>                             | 16.6            | 13.3             | $(b-a)/b = 24.8$          |
| 8. Expenditure on Educa-<br>tion <sup>g/</sup> per pupil                                      | \$1,282         | \$1,497          | $(b-a)/b = 14.3$          |
| 9. Death Rate from<br>Alcoholism <sup>f/</sup> per 1,000<br>Population                        | .1              | .5               | $(b-a)/b = 80^{**}$       |

\* Significant in enhancing social well-being.

\*\* Significant in reducing social well-being.

a/ U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economics Information System. Computer Printout, 1976.

b/ Nevada State Employment Security Department, Employment Security Research Section, Nevada Affirmative Action, State and Counties. September 1976, pp. 3, 21.

c/ Nevada State Welfare Department, Telephone Conversation, January 12, 1977, Op. cit.

d/ U.S. Department of Commerce, Bureau of the Census. Census of Population; 1970, Number of Inhabitants, PC(1)-A30 Nevada. Washington D.C., U.S. GPO, 1972.

e/ Nevada State Department of Law Enforcement Assistance, Identification and Communication Division, 1976 Annual Report of Persons Charged.

f/ Nevada State Health Division, Section of Vital Statistics. Vital Statistics, Nevada, 1975. Compilation p. 39 & 42, 1976.

g/ Black, Valicia, Nevada State Department of Education. Telephone Conversation, January 12, 1976.

### Social Well-Being Thrust Analysis

This section is intended to serve as a method of evaluating the ability of the lands, minerals, forest products, range, wildlife, and recreation programs to affect social well-being. These are evaluated along with the resident perception and will serve in part of the preparation of the Management Framework Plan by each resource specialist. The following table displays the resource programs possible effects on social well-being.

Table 28

| <u>Resource Activity</u> | <u>Well-Being Factors</u>                                     | <u>Resident Perception</u>                                                                                                       | <u>Program Thrust Narrative</u>                                                                                                                                               |
|--------------------------|---------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Lands                 | Population Change<br>21% greater than the<br>State.           | The county is land-<br>locked by public<br>land.                                                                                 | Limited ability to accommodate growth<br>near Battle Mountain because land<br>is primarily in private hands. How-<br>ever, remaining land could be blocked<br>with exchanges. |
|                          | Per capita income<br>is 1% lower than<br>State average.       | Not a significant<br>problem.                                                                                                    | Limited opportunity to transfer land<br>for income improvement.                                                                                                               |
|                          | Infant mortality<br>rate is 25% lower<br>than State.          | Health care is not<br>as good as it could<br>be.                                                                                 | Even though the rate is low, BLM actions<br>under the Recreation & Public Purpose Act<br>could facilitate hospital expansion - however,<br>this need is not foreseen.         |
| 2. Minerals              | Population change.                                            | The county is<br>experiencing a<br>mining boom.                                                                                  |                                                                                                                                                                               |
| 3. Forest Products       | Unemployment rate<br>is 151% lower than<br>the State average. | The mining boom<br>may be only<br>temporary.                                                                                     | The minerals program can facilitate<br>mining by processing cases as rapidly<br>as possible.                                                                                  |
|                          | Minor impact.                                                 | Regional Indians<br>and some local<br>residents have<br>expressed opposi-<br>tion to commercial<br>harvesting of pinyon<br>nuts. | Limit commercial nut harvesting to cer-<br>tain sites not desired by Indians or<br>other residents.                                                                           |
| 4. Range Management      | Personal income<br>and employment.                            | Ranching incomes<br>are low.                                                                                                     | Stabilization of range conditions and<br>improvements will improve income and<br>employment for ranch workers.                                                                |
| 5. Wildlife              | Personal income<br>and employment.                            | Income from hunters<br>has dropped with<br>deer herd.                                                                            | By improving watershed and habitat, BLM<br>can improve fishing and hunting.                                                                                                   |
| 6. Recreation            | Population change.                                            | Visitors and local<br>residents are over-<br>crowding available                                                                  | By developing waters, a low intensity<br>campsite and recreation site can be pro-<br>vided that will satisfy local and regional                                               |

#### PUBLIC POSITIONS AND EXPECTATIONS

The following set of tables is arranged by resource activity. The information was gathered from newspaper clippings, interest group publications, letters sent to BLM, results of public meetings, Environmental Assessment Records, Social-Economic Profile (1606), and interviews with group leaders.

This section is an effort to summarize the documented public positions of the groups in the area and their feelings toward resource activity practices, specific areas, and BLM projects.

For further information, see the public involvement section filed with other materials under each subject in the general files.

TABLE 29  
RECORD OF EXTENT AND NATURE OF PUBLIC POSITIONS AND EXPECTATIONS

| Name of group                                                      | Position toward land use in general                                               | Position toward resource activity practices                               | Position toward specific BLM land areas                                | Position toward specific resource projects                                                                                                       |
|--------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------|------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| <u>Resource Activity - Lands</u>                                   |                                                                                   |                                                                           |                                                                        |                                                                                                                                                  |
| Lander County Commissioners and Lander County Planning Commission. | Land Management should coincide with Lander County Land Use Plan.                 | Favor R&PP leases and land blocking by exchanges.                         | Feel land around towns should be blocked in private hands.             | Favor sanitary land fill site with land for possible golf course. Wanted clearance for Austin sewer site.                                        |
| Sierra Pacific Power Company.                                      | Powerlines and rights-of-way are necessary for public well-being.                 | Favor rights-of-way; oppose withdrawal.                                   | Want to supply power to whole planning area.                           | Want Reese River powerline right-of-way. Want power lead to Austin.                                                                              |
| Nevada Department of Fish and Game.                                | Want game and habitat management.                                                 | Want habitat protected in rights-of-way and exchanges.                    | Want crucial habitat areas managed for protection.                     | Concerned about access to public lands after exchanges. Want habitat protected by Buffalo Valley AMP. Concerned about oil and gas leasing.       |
| Local residents.<br>OO<br>G1                                       | Want land use for local benefit.                                                  | Favor land exchanges and rights-of-way.                                   | Want area around towns to be in private hands.                         | Opposed to Pt. Reyes Land Exchange Program. Favor powerline right-of-way. Favor Special Land Use Permits for sewage plant.                       |
| Nevada State Museum.                                               | Cultural and historical resources are important for knowledge.                    | Want a complete archaeological clearance before any exchange or transfer. | Interested in cultural resource sites in Grass Valley and Reese River. | Interested in clearance and protection of cultural resources on Reese River powerline.                                                           |
| Sierra Club and Nevada Outdoor Recreation Association.             | Support multiple use classification and oppose USFS inconsistent with recreation. | Support withdrawals for primitive areas and for resource protection.      | Favor campground at Carroll Summit.                                    | Favor withdrawal of primitive areas from leasing. Oppose rights-of way in scenic and primitive areas. Oppose Alaska gas transportation pipeline. |

TABLE 29 (Continued)

Resource Activity - Minerals

|                                                        |                                                         |                                                                       |                                                        |                                                                                                               |
|--------------------------------------------------------|---------------------------------------------------------|-----------------------------------------------------------------------|--------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| Nevada Mining Association.                             | Mineral extraction is the highest and best use of land. | BLM actions and plans should be to facilitate mining.                 | Want all lands left open to leasing and location.      | Favor powerline rights-of-way to mine sites; opposed to new mining regulations.                               |
| Local residents.                                       | Favor uses of land which will benefit local area.       | Management actions should facilitate mining for jobs.                 | Want local lands left open to mining and prospecting.  | Oppose new mining regulations. Favor powerline rights-of-way.                                                 |
| Exploration Geologists of Nevada.                      | Mining is a primary use of the land.                    | Oppose any withdrawals from mineral location.                         | Want all lands left open to leasing and location.      | Oppose new mining regulations. Feel that oil and gas leasing EAR did not have sufficient miner participation. |
| Sierra Club and Nevada Outdoor Recreation Association. | Oppose uses which are inconsistent with recreation.     | Oppose mineral extraction which destroys recreation or scenic values. | Feel complete inventory is needed in geothermal areas. | Concerned about stipulations in the leasing; favor new mining regulations.                                    |

Resource Activity - Forest Products

|                              |                                                                |                                                                            |                                                                   |                                                                                                       |
|------------------------------|----------------------------------------------------------------|----------------------------------------------------------------------------|-------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| Indian groups.               | Indian age-old customs should have precedence over other uses. | Opposed to chaining and other pinyon-juniper removal.                      | Value all wooded areas for pinyon nut production.                 | Oppose commercial pine nut leasing.                                                                   |
| Local residents.             | Favor uses which will economically benefit local area.         | Favor commercial development of resources.                                 | Value pine nut producing areas.                                   | Favor commercial uses of pinyon-juniper trees. Do not like to pay for getting Christmas trees.        |
| Ranchers.                    | Grazing is the best surface use of any area.                   | Favor chaining and burning of pinyon-juniper to improve range for grazing. | Opposed to removing livestock use in area greater than 50% slope. | Want chaining and seeding projects.                                                                   |
| Nevada Division of Forestry. | Believe in utilization of woodland products.                   | Favor fire control and commercial utilization.                             | Favor management for commercial use of pinyon-juniper areas.      | Favor use of resin in pinyon-juniper for commercial wood products. Favor inventory of woodland areas. |

TABLE 29 (Continued)

Resource Activity - Range Management

|                                                         |                                                                         |                                                                       |                                                   |                                                                                                                                        |
|---------------------------------------------------------|-------------------------------------------------------------------------|-----------------------------------------------------------------------|---------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| Nevada Ranching Association.                            | The best use for rangeland is livestock grazing.                        | Favor custodial management of range.                                  | All range areas should be open for grazing.       | Favor wild horse removal from grazing lands. Oppose withdrawals of grazing use. Oppose grazing ES. Favor range and water improvements. |
| Society for Range Management.                           | To improve effectiveness of range management.                           | BLM should engage in scientific range management and grazing systems. | BLM should use study plots and enclosure areas.   | Favor range studies and inventories. Favor rest-rotation grazing. Favor range improvements.                                            |
| University of Nevada Extension Service.                 | To aid and advise agriculture in Nevada.                                | Favor range improvement plans and scientific range management.        | Want range left in livestock use.                 | Favor development of interim plans for allotments without fully implemented AMPs. Favor range improvements. Favor wild horse removal.  |
| Natural Resource Defense Council.                       | Feel that all resources should be scientifically managed and preserved. | Opposed to resource damages and non-multiple use management.          | Want all areas managed and protected.             | Want a grazing ES done on all BLM grazing areas.                                                                                       |
| Wild Horse Organized Assistance.                        | Want wild horse protection and management.                              | Want management consistent with ecological balance.                   | Traditional horse use.                            | Oppose reduction of wild horses without equal reduction of cattle numbers. Oppose fences that restrict horse movement.                 |
| <sup>99</sup><br>51<br>Nevada Fish and Game Department. | Wildlife habitat should be managed for optimum numbers.                 | Favor grazing management that benefits habitat.                       | Key habitat areas must be protected and improved. | Oppose allocating forage for less than optimum numbers of wildlife. Oppose over-grazing.                                               |

Resource Activity - Watershed

|                                         |                                                |                                       |                                                 |                                       |
|-----------------------------------------|------------------------------------------------|---------------------------------------|-------------------------------------------------|---------------------------------------|
| University of Nevada Extension Service. | Feel that all watersheds should be stabilized. | BLM should use more controlled burns. | Reese River watershed areas should be improved. | Favor watershed improvement projects. |
|-----------------------------------------|------------------------------------------------|---------------------------------------|-------------------------------------------------|---------------------------------------|

TABLE 29 (Continued)

|                                               |                                                   |                                                               |                                                                  |                                                                  |
|-----------------------------------------------|---------------------------------------------------|---------------------------------------------------------------|------------------------------------------------------------------|------------------------------------------------------------------|
| Nevada Outdoor Recreation Association (NORA). | Feel BLM should stabilize all watersheds.         | Feel BLM's lack of grazing management has damaged watersheds. | Feel watershed stabilization is necessary in Reese River Valley. | Favor grazing, ORV and mining regulations to protect watersheds. |
| Soil Conservation Service.                    | Watersheds should be stabilized to conserve soil. | Feel BLM does not have an active watershed program.           | Interested in developing ecological study area at Mill Creek.    | Favor control structures. Oppose over-grazing by livestock.      |

Resource Activity - Wildlife

|                                        |                                                           |                                                                      |                                                 |                                                                                                                               |
|----------------------------------------|-----------------------------------------------------------|----------------------------------------------------------------------|-------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| The Wildlife Society.                  | Favor the preservation of all species of animals.         | Approve of habitat management and preservation practices.            | Concerned about critical key habitat areas.     | Favor deer habitat and forage management. Favor water management.                                                             |
| Sierra Club.                           | Believe in preservation of wilderness and native animals. | Opposed to poison predator control and over-grazing of deer habitat. | Concerned about deer and sage grouse habitat.   | Opposed to ORV permits in deer winter range. Concerned about: sage grouse habitat protection. Oppose introduction of exotics. |
| Audubon Society.<br>CO                 | Favor the preservation of all species of wildlife.        | Opposed to chainings. Favor sage grouse strutting ground protection. | Concerned about raptor and sage grouse habitat. | Favor ORV, mining, and restrictions to protect habitat.                                                                       |
| Nevada Outdoor Recreation Association. | Favor the preservation of wilderness and native species.  | Concerned about preservation of rare and endangered species.         | Concerned over critical deer winter areas.      | Favor withdrawal of critical habitat areas from leasing. Favor ORV, grazing, and mining regulation to protect habitat.        |

Resource Activity - Recreation

|              |                                                            |                                          |                                                                        |                                                           |
|--------------|------------------------------------------------------------|------------------------------------------|------------------------------------------------------------------------|-----------------------------------------------------------|
| Sierra Club. | Believe in the preservation of wildlife and of recreation. | Favor establishment of wilderness areas. | Believe that watershed and critical habitat areas should be protected. | Concerned about provisions of Allotment Management Plans. |
|--------------|------------------------------------------------------------|------------------------------------------|------------------------------------------------------------------------|-----------------------------------------------------------|

TABLE 29 (Continued)

|                                          |                                                              |                                                                                 |                                                               |                                                                                                                                           |
|------------------------------------------|--------------------------------------------------------------|---------------------------------------------------------------------------------|---------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| Nevada Outdoor Recreation Association.   | Favor the protection of land and recreational use in Nevada. | Want a comprehensive inventory of all potential primitive and recreation sites. | The public land should remain in federal hands.               | Favor mining, ORV and grazing regulations. Want Environmental Statements on grazing. Concerned about stipulations and controlled burning. |
| <u>Reese River Revue</u> (Newspaper)     | Land should be developed for public use.                     | Opposed to closing of public land to mineral location.                          | BLM should facilitate development of Austin.                  | Opposed to ORV regulations. Favor development of campsites.                                                                               |
| <u>Battle Mountain Bugle</u> (Newspaper) | Believe everyone should be able to use the land.             | Against restrictions on uses of land.                                           | BLM should aid development of recreation for Battle Mountain. | Opposed to ORV and mining regulations. Favor habitat management for wildlife.                                                             |

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#### INFRASTRUCTURES AND BUREAU RELATIONSHIPS

Informational topics, including infrastructures, agreements, relationships, and non-Federal law were covered in depth in the Battle Mountain District Social-Economic Profile (1606), and it is not the purpose of this document to redisplay information contained elsewhere in the planning process.

An index is attached which displays a summary of infrastructures, agreements, and relationships. Also displayed are the resource activities which they impact, or which affect the infrastructures or relationships.

Table 30  
Special Activity Reference

|                                              | Data in Social<br>Economic Profile | Lands | Minerals | Forestry | Range | Watershed | Wildlife | Recreation | Cadastral Survey | Roads and Trails | Fire Control | Altow | Other |
|----------------------------------------------|------------------------------------|-------|----------|----------|-------|-----------|----------|------------|------------------|------------------|--------------|-------|-------|
| Transportation                               | .44A                               | X     |          |          |       |           |          | X          |                  | X                | X            | X     |       |
| Communication                                | .44A                               | X     |          |          |       |           |          |            |                  | X                | X            | X     |       |
| Fire Control                                 | .44E                               |       | X        |          |       |           |          |            | X                |                  |              |       |       |
| Land Survey                                  | .44C                               | X     |          |          |       |           |          |            |                  |                  |              |       |       |
| Major Utilities                              | .44D                               | X     |          |          |       | X         |          | X          |                  |                  | X            | X     |       |
| Law Enforcement                              | .44E                               |       |          |          |       |           | X        | X          |                  |                  | X            |       |       |
| Search and Rescue                            | .44E                               |       |          |          |       |           |          | X          |                  |                  | X            |       |       |
| Health Systems                               | .45A                               |       |          |          |       |           |          | X          |                  |                  |              |       |       |
| Education                                    | .45B                               |       |          |          |       |           | X        |            |                  |                  | X            |       |       |
| Special Districts                            | .46                                | X     |          |          |       |           |          |            |                  |                  |              |       |       |
| Water Systems                                | .44D                               | X     |          |          |       | X         |          |            |                  |                  |              | X     |       |
| Nye County Planning<br>Commission            | .52                                | X     |          |          |       |           |          | X          |                  | X                |              |       |       |
| Other Federal<br>Bureau of Reclamation       |                                    |       | X        |          | X     |           |          |            |                  |                  |              |       |       |
| USDA Forest Service                          |                                    | X     | X        | X        | X     | X         | X        | X          | X                | X                | X            | X     |       |
| Fish and Wildlife<br>Service                 |                                    |       |          |          |       |           | X        | X          |                  |                  |              |       |       |
| Bureau of Indian Affairs                     |                                    |       |          |          | X     |           |          |            |                  |                  |              | X     |       |
| Energy Research and<br>Development Authority |                                    |       |          |          |       |           |          |            |                  |                  |              |       |       |

Stock  
driveways.

Understanding  
for security.

90

90

Table 30 (Cont.)  
Special Activity Reference

|                                          | Data in Social<br>Economic Profile | Lands | Minerals | Forestry | Range | Watershed | Wildlife | Recreation | Cadastral Survey | Roads and Trails | Fire Control | Atrow | Other |
|------------------------------------------|------------------------------------|-------|----------|----------|-------|-----------|----------|------------|------------------|------------------|--------------|-------|-------|
| Action Study Interest<br>Groups          |                                    |       |          |          |       |           |          |            |                  |                  |              |       |       |
| CNRDA                                    |                                    | X     |          |          | X     | X         |          |            | X                | X                |              | X     |       |
| Southern Pacific Land<br>Corporation     |                                    | X     |          |          |       |           |          |            |                  | X                |              | X     |       |
| Southwest Gas                            |                                    | X     |          |          |       |           |          |            |                  | X                |              | X     |       |
| Sierra Pacific Power                     |                                    | X     |          |          |       |           |          |            |                  | X                |              | X     |       |
| Bell of Nevada                           |                                    | X     |          |          |       |           |          |            |                  | X                |              | X     |       |
| Sierra Club                              |                                    |       |          | X        | X     | X         | X        | X          |                  | X                | X            |       |       |
| Nevada Prospectors<br>Association        |                                    |       | X        |          |       |           |          |            |                  | X                |              |       |       |
| National Mustang<br>Association          |                                    |       |          |          |       |           | X        |            |                  |                  |              |       |       |
| Nevada Outdoor Recreation<br>Association |                                    |       |          | X        | X     | X         | X        | X          |                  | X                |              |       |       |
| Wild Horse Organized<br>Assistance       |                                    |       |          |          |       |           | X        |            |                  |                  |              |       |       |
| Nevada Cattlemen's<br>Association        |                                    |       |          |          | X     | X         | X        |            |                  |                  |              |       |       |
| Nevada Sheepherders<br>Association       |                                    |       |          |          | X     | X         | X        |            |                  |                  |              |       |       |
| Tonopah Sportmens<br>Association         |                                    |       |          |          |       | X         | X        |            |                  |                  |              |       |       |

#### Further Analysis of Institutional Relationships

The following tables document an analysis of the agreements between the Bureau of Land Management and other Federal, State and local government agencies. The impacts are considered from the viewpoint of requirements obligated upon Battle Mountain Bureau of Land Management activities in the Shoshone Planning Area.

Attached is an extract from the Social-Economic Profile which lists Battle Mountain Bureau of Land Management relationships.

Table 31  
RECORD OF BUREAU RELATIONSHIPS AND

THEIR IMPACT ON NATIONAL RESOURCE LAND MANAGEMENT

| Agency/Group          | Agreement                     | Impact Documentation                                                                                                                                                                                                                                                 |
|-----------------------|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Bureau of Reclamation | Geothermal Leasing            | <ul style="list-style-type: none"> <li>a. Minerals Survey Leasing</li> <li>b. Impact of agreement requires review by Bureau of Reclamation before leasing in areas affecting Bureau of Reclamation</li> </ul>                                                        |
|                       | Watershed Projects            | <ul style="list-style-type: none"> <li>a. Watershed (All aspects)</li> <li>b. Impact requires consultation before any project affecting Bureau of Reclamation project</li> <li>c. Impact on other activities range management projects, wildlife projects</li> </ul> |
| USDA Forest Service   | Archaeological Clearance      | <ul style="list-style-type: none"> <li>a. Archaeology clearance</li> <li>b. Impact-Requires BLM clearance before Any BLM projects on U. S. Forest Service land</li> </ul>                                                                                            |
|                       | Fire Protection               | <ul style="list-style-type: none"> <li>a. Fire protection suppression control</li> <li>b. Impact-Requires initial attack and cooperation in designated areas</li> </ul>                                                                                              |
|                       | Road, Powerline Rights-of-way | <ul style="list-style-type: none"> <li>a. Lands Easements</li> <li>b. Impact-Requires easements and cooperation between agencies</li> </ul>                                                                                                                          |

THEIR IMPACT ON NATIONAL RESOURCE LAND MANAGEMENT

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Table 31 (Cont.)  
RECORD OF BUREAU RELATIONSHIPS AND

THEIR IMPACT ON NATIONAL RESOURCE LAND MANAGEMENT

| Agency/Group                      | Agreement          | Impact Documentation                                                                                                                                                                                                                            |
|-----------------------------------|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Lander Soil Conservation District | Soil Conservation  | <ul style="list-style-type: none"> <li>a. Watershed all aspects</li> <li>b. Impact-Requires BLM to prepare a long-range plan and to prepare watershed conservation projects</li> <li>c. Range management</li> </ul>                             |
| Bureau of Indian Affairs          | Fire Control       | <ul style="list-style-type: none"> <li>a. Fire control Control suppression</li> <li>b. BLM is required to suppress and control all fires on national Indian Affairs lands</li> </ul>                                                            |
| Federal Aviation Administration   | Easements          | <ul style="list-style-type: none"> <li>a. Lands Easements</li> <li>b. Requires BLM to prepare easements for FAA roads and installations</li> </ul>                                                                                              |
| U.S. Geological Survey            | Leasable Minerals  | <ul style="list-style-type: none"> <li>a. Minerals Survey Leasing Preparation of EAR</li> <li>b. BLM must examine site and prepare EAR before leasing and must administer lease</li> <li>c. All other activities are impacted by EAR</li> </ul> |
|                                   | Geothermal Leasing | <ul style="list-style-type: none"> <li>a. Minerals Survey Leasing Preparation of EAR</li> <li>b. BLM must examine site and prepare EAR before leasing and must administer lease.</li> </ul>                                                     |

Table 31 (Cont.)

RECORD OF BUREAU RELATIONSHIPS AND  
THEIR IMPACT ON NATIONAL RESOURCE LAND MANAGEMENT

| Agency/Group                        | Agreement                                       | Impact Documentation                                                                                                                                                                                                                   |
|-------------------------------------|-------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| U.S. Geological Survey (continued)  |                                                 | c. All other activities are impacted by EAR                                                                                                                                                                                            |
| Elko and Winnemucca BLM Districts   | Fire Protection                                 | a. Fire Control Initial attack Cooperation<br><br>b. Battle Mountain BLM must provide attack in designated zones and must cooperate in suppression and control                                                                         |
| Nevada Highway Department           | Material Sites<br><br><br><br><br>Rights-of-way | a. Minerals Saleables<br><br>b. BLM must review application for material sites and formulate requirements for clean up.<br><br>a. Lands Rights-of-way<br><br>b. BLM must prepare rights-of-way for highways on national resource lands |
| Nellis Air Force Base               | Wild Horse Range                                | a. Range management Wild horses<br><br>b. BLM must provide inventory control and coordination in managing range and wild horse population<br><br>c. Wildlife                                                                           |
| 2. Nevada Department of Agriculture | Wild Horses                                     | a. Range management Wild horses<br><br>b. BLM must comply with State Lands concerning brands and inspections.                                                                                                                          |

Table 31 (Cont.)  
RECORD OF BUREAU RELATIONSHIPS AND

THEIR IMPACT ON NATIONAL RESOURCE LAND MANAGEMENT

| Agency/Group                       | Agreement                                     | Impact Documentation                                                                                                                                                                                                                                                                                      |
|------------------------------------|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Nevada Division of Forestry        | Fire Protection                               | <ul style="list-style-type: none"> <li>a. Fire control Cooperation</li> <li>b. BLM must provide all assistance and cooperation in control and suppression of fires on Nevada forest land.</li> </ul>                                                                                                      |
| Nevada Department of Fish and Game | Sikes Act (1974) Endangered Species Act 1973. | <ul style="list-style-type: none"> <li>a. Wildlife all aspects</li> <li>b. Manage livestock, habitat rehabilitation, implement wildlife conservation protect habitat for endangered species, enforce regulations of ORV traffic.</li> </ul>                                                               |
| Nevada State Museum                | Archaeology                                   | <ul style="list-style-type: none"> <li>a. Archaeology All aspects</li> <li>b. BLM must furnish land status information on archaeological sites, advise of land treatment programs, recommend priorities, and advise on restoration and include prospective sites in a comprehensive inventory.</li> </ul> |

Table 32  
COOPERATIVE AGREEMENTS WITH  
OTHER FEDERAL, STATE AND LOCAL AGENCIES

Cooperative Relations  
Item

BLM Reference No. 1786  
Location: Central Files

|                                                |         |                                  |
|------------------------------------------------|---------|----------------------------------|
| Bureau of Reclamation                          | 1972 A. | Administrative Agreement         |
|                                                | 1960 B. | Stock Driveways                  |
|                                                | 1971 C. | Geothermal Leasing               |
| U.S.D.A. Forest Service                        | 1954 A. | Road Right-of-Way                |
|                                                | 1966 B. | Range Management                 |
|                                                | 1961 C. | Forest Control                   |
|                                                | 1943 D. | Fire Protection                  |
| U.S. Fish & Wildlife Service                   | A.      | Wildlife Consideration           |
|                                                | B.      | Predator Control                 |
|                                                | C.      | Railroad Valley Preserve         |
| Bureau of Indian Affairs                       | A.      | Range Management                 |
|                                                | 1971 B. | Fire Protection                  |
| Energy Research and Development Administration |         | Understanding for Security       |
| Soil Conservation Service                      | A.      | Coordination on Water and Survey |
|                                                | B.      | Cooperation                      |
| Soil Conservation Districts                    |         | Cooperation                      |
| Eureka                                         |         | Cooperation                      |
| Austin                                         |         | Cooperation                      |
| Humboldt River                                 |         | Cooperation                      |
| Tonopah                                        |         | Cooperation                      |
| Federal Aviation Administration                |         | Road and Radio Site Use          |
| U.S. Geological Survey                         | 1971 1. | Minerals Administration          |
|                                                | 1974 2. | Geothermal Leasing               |

BLM Districts

|                     |    |                          |
|---------------------|----|--------------------------|
| Winnemucca District | A. | Fire Protection          |
|                     | B. | Savall Allotment         |
| Carson District     | A. | Stewart Spring Allotment |
|                     |    | Fire Protection          |
| Elko District       |    | Fire Protection          |
| Ely District        | A. | Fire Protection          |
| Las Vegas District  |    | Fire Protection          |

.Table 32 (Cont.)  
COOPERATIVE AGREEMENTS WITH  
OTHER FEDERAL, STATE AND LOCAL AGENCIES

State Agency

|                               |                                                                             |
|-------------------------------|-----------------------------------------------------------------------------|
| Nevada Highway Dept.          | A. Material Sight Cleanup<br>B. Sign Erection<br>C. Right-of-Way            |
| University of Nevada          | A. Test Inclosures<br>B. Water                                              |
| State of Nevada Clearinghouse | Information & Publication                                                   |
| Nevada Division of Forestry   | Air Protections                                                             |
| Nevada Fish & Game            | A. Wildlife Consideration<br>B. Water Developments<br>C. Range Improvements |
| Nevada State Museum           | Archaeology                                                                 |
| State Engineers Office        | Nevada Water Laws                                                           |

County

|                                   |                          |
|-----------------------------------|--------------------------|
| Lander County Planning Commission | Cooperation              |
| Lander County Schools             | Cooperation              |
| Eureka County Planning Board      | Cooperation              |
| Eureka County Commissioners       | Roads and material sites |
| Nye County Planning Commission    | Cooperation              |

Planning Agencies

|                                       |                                          |
|---------------------------------------|------------------------------------------|
| Central Nevada Resource               | Cooperation                              |
| Nevada Resource Action Council        | Cooperation                              |
| Nevada State Land Use Planning Agency | Cooperation                              |
| Southern Pacific Land Corp.           | A. Exchange of Use<br>B. Christmas Trees |
| Southwest Gas                         | Use Rates                                |
| Sierra Pacific Power                  | Right-of-Way                             |
| Bell of Nevada                        | Right-of-Way                             |

.Table 32 (Cont.)

COOPERATIVE AGREEMENTS WITH  
OTHER FEDERAL, STATE AND LOCAL AGENCIES

Private Groups of Interest

|                                       |                        |
|---------------------------------------|------------------------|
| Sierra Club                           | A. Recreation.         |
|                                       | B. Conservation        |
| Nevada Prospectors Association        | Minerals               |
| National Mustang Association          | Wild Horses            |
| Nevada Outdoor Recreation Association | Recreation             |
| Wild Horse Organized Assistance       | Wild Horses            |
| Nevada Cattlemen's Association        | Livestock              |
| Nevada Sheepherders Association       | Livestock              |
| Tonopah Sportmens Association         | Recreation             |
| District Advisory Board               | Grazing Administration |

Cooperative Planning

Item

BLM Reference: No. 700  
Location: Library.

Conger, Sharp, Virater, Engstrom and Associates, Inc. General Plan of Eureka County. 1973.

Smith, Raymond P., General Plan, Nye County, 1974.

Smith, Raymond P., General Plan, Lander County, 1969.

#### CRITICAL ENVIRONMENTAL AREA ANALYSIS

There have been no officially designated critical environmental areas in the resource area. The Environmental Protection Commission of the Nevada Department of Conservation and Natural Resources has not formally nominated any area in Lander County as an area of concern.

#### PROBLEMS AND ISSUES SUMMARY

The problems and issues identified by the resource activities have been listed in the following index.

Problems were analyzed from a social, economic, and resource viewpoint. Problems were also organized by multi-activity, single activity and by organizational units required to resolve the problem or issue; i.e., district and local, inter-district, and Bureau. This is because district and local concerns can be handled within the district, while inter-district concerns will require inter-district cooperation. Bureau concerns require coordination throughout the Bureau of Land Management. Single activity concerns can be handled within individual resource activities.

TABLE 33  
PROBLEMS & ISSUES SUMMARY

| PROBLEMS/<br>ISSUES                                                                                           | SOCIAL<br>ASPECTS                                          | ECONOMIC<br>ASPECTS                                                          | ENVIRONMENTAL<br>ASPECTS                                                                                                | OTHER<br>ASPECTS                                                                                |
|---------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| <u>District and local</u><br>1. Demand by livestock, wild horses and wildlife in excess of actual production. | Deterioration of ranching life style and local life style. | Declining long-term yield to livestock and recreation and loss of watershed. | a. Excessive use of vegetative resources<br>b. Pressure on wildlife and watershed<br>c. Invasion by undesirable species | Complicated by lack of coordination with wildlife agencies and conflicts in resource management |
| 2. Lack of effective vegetative management by Bureau of Land Management and ranches.                          | Political and social pressure to maintain status quo.      | a. Cost of implementation is less than potential                             | Environmental damages to cover for wildlife                                                                             | Lack of coordination with other land management agencies                                        |
| 3. Inadequate Cadastral Survey                                                                                | Problems in determining public and private ownership       | Affects realty and mining values                                             | access, project layout, and mining claims location problems                                                             | Leads to property trespass on public land                                                       |
| 4. Legal access across private land                                                                           | Denies access to recreation areas                          | Loss of income from recreation and other resource uses                       |                                                                                                                         |                                                                                                 |
| 5. Too many poorly planned roads                                                                              | Danger to travelers                                        | vehicle damage                                                               |                                                                                                                         |                                                                                                 |
| 6. Hazards on national resource lands                                                                         | Risk to personal safety                                    | a. lawsuits<br>b. Costs of elimination                                       | legal problems in ownership                                                                                             | Legal problems in ownership                                                                     |

TABLE CONTINUED  
PROBLEMS & ISSUES SUMMARY

| PROBLEMS/<br>ISSUES                                                     | SOCIAL<br>ASPECTS                                                                                                             | ECONOMIC<br>ASPECTS                                                                                                                                           | ENVIRONMENTAL<br>ASPECTS                                            | OTHER<br>ASPECTS                                                     |
|-------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|----------------------------------------------------------------------|
| 1. Control of water on national resource land                           | Social and political resistance to change                                                                                     | Competition for use                                                                                                                                           | Hinderance to long term wildlife management                         | Legal ownership problems                                             |
| 1. Lack of directional and informational signs                          | Local resistance to signs                                                                                                     | Signing encourages recreation                                                                                                                                 |                                                                     | New BLM personnel have trouble finding their way around the district |
| 1. Checkerboard land ownership pattern                                  | Local residents feel landlocked                                                                                               | Uneconomic parcels of land                                                                                                                                    | Hinders effective resource management                               | Complicated by problems in blocking up of land ownership             |
| 1. Rapid expansion in mining activity and surface disturbance by mining | a. Limited social and economic infrastructure to accommodate population growth.<br>b. Social resistance to mining regulations | a. Positive: growth in income.<br>b. Negative: instability of minerals market<br>c. Negative: loss to recreation and other uses<br>d. High cost of mitigation | Damage to soil, vegetation, wildlife, water and cultural resources  | Administrative problems in mining regulation                         |
| .. Lack of local developed recreation                                   | Present facilities are over used<br>local resistance to highly developed recreation sites                                     | Economic demand is greater than supply                                                                                                                        | Overuse of undeveloped areas creates damage                         |                                                                      |
| .. Too rapid turnover in Bureau of Land Management personnel            | Contributes to a poor relationship with local population. BLM personnel feel a lack of local facilities and amenities         | Economic costs of movement                                                                                                                                    | Difficult to manage resources without long-term familiarity in area | BLM promotion practices encourage short tours                        |

TABLE - Continued  
PROBLEMS AND ISSUES SUMMARY

| PROBLEMS/<br>ISSUES                                               | SOCIAL<br>ASPECTS                                                                  | ECONOMIC<br>ASPECTS                                              | ENVIRONMENTAL<br>ASPECTS                | OTHER<br>ASPECTS                          |
|-------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------|-----------------------------------------|-------------------------------------------|
| <u>Inter District</u>                                             |                                                                                    |                                                                  |                                         |                                           |
| 13. Lack of inter-District and District-State Office coordination | Local residents are confused about which office to deal with                       |                                                                  | Hinders coordinated resource management |                                           |
| 14. Lack of effective regulation enforcement                      | Local social and political pressure against and national pressure for enforcement. | Leads to inefficiencies in economic management                   | Leads to resource deterioration         |                                           |
| <u>Bureau</u>                                                     |                                                                                    |                                                                  |                                         |                                           |
| 15. Rapid shifts in BLM management policy                         | Confuses local populace; erodes public support                                     | Leads to economic insecurity                                     | Hinders effective resource management   | Leads to inconsistent management policies |
| 16. Resource damage by off-road vehicles                          | Social resistance to regulation and social dissatisfaction with damages            | ORV's are important to local economy, in recreation and industry | Off-the road use damages resources      | ORV use leads to unplanned roads          |
| 17. Problems in BLM's relationship with the local population      | Poor public perception of BLM's goals and objectives                               | Hinders funding for programs                                     | Hinders resource management             | Leads to attempts to please everybody     |

PLANNING AREA ANALYSIS DATA SOURCE INDEX

BIBLIOGRAPHY

Statistics

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